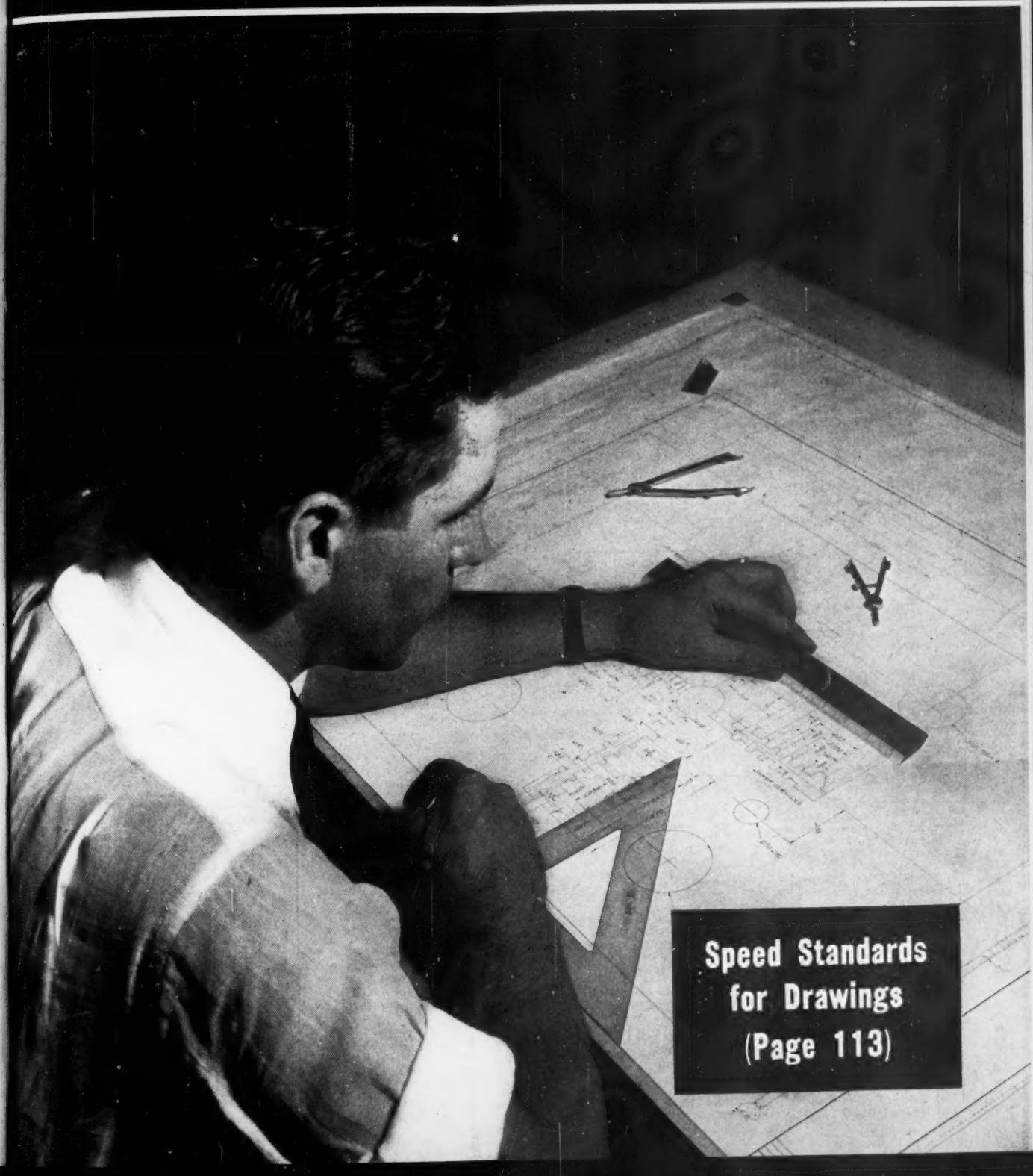
Industrial

June 1945

Standardization



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Am. Soc of Mechanical Engineers
Am. Soc for Testing Materials
Am. Soc of Tool Engineers, Inc
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Assn of American Railroads
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Cast Iron Pipe Research Assn
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  Associated Factory Mutual Fire Insurance Companies
  Nat Bd of Fire Underwriters
  Nat Fire Protection Assn
  Underwriters' Laboratories, Inc
Institute of Radio Engineers
Lumber Mfrs Group:
  Timber Engg Co (Subsidiary of Nat Lumber Mfrs Assn)
Mfrs Standardization Soc of the Valve and Fittings Industry
Metal Cutting Tool Institute
Nat Assn of Mutual Casualty Companies
Nat Conservation Bureau
Nat Electrical Mfrs Assn
Nat Housing Agency
Nat Machine Tool Builders' Assn
Nat Safety Council
Outdoor Advertising Assn of America, Inc
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Soc of Automotive Engineers, Inc
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  Bell Telephone System
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U.S. Department of Commerce
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U.S. Department of Labor
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Nat Federation of Textiles, Inc.
Nat Lime Assn
Nat Retail Dry Goods Assn
Research Council of the Academy of Motion Picture Arts and Sciences
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Soc of Motion Picture Engineers
Structural Clay Products Institute
Textile Color Card Assn of the U.S., Inc
U.S. Cap Screw Service Bureau
U.S. Machine Screw Service Bureau

Company Members—

Some 2,000 Industrial concerns hold membership either directly or by group arrangement through their respective trade associations

Readers Write

Metric Screw Threads

Texowell Service & Machine Company

Gentlemen: Please advise if you have a standard available for the International Metric or the French Thread.

I. W. EVJEN
Engineer

● ● In reply a copy of the British War Emergency Standard for Metric Screw Threads BS 1095:1943 was sent to Mr. Evjen. Although national standards for metric threads have been unified considerably, there still are some differences between the standards adopted in various countries. The British Standard, however, gives a good general picture of the situation.

Comment from Other Countries

Chinese Standards Commission, Chungking, China

Dear Mr. Agnew: I have been getting the copies of INDUSTRIAL STANDARDIZATION promptly and they are much appreciated here. I read them and then send them to the secretariat, most of whom can read English. They read them from cover to cover and genuinely appreciate getting them.

DICKSON RECK
Standards Adviser
to the Chinese Government

H. M. Saryan, Istanbul, Turkey

Gentlemen: We request you to send to us the latest list of standards and price lists to give us adequate information about the specifications for materials, methods of tests, dimensions, definitions of technical terms, procedures, and some rough idea about the latest selling conditions. We realize the wartime difficulties but as there is a great need for American products we shall continue to ask you to send to us further information.

H. M. SARYAN

● ● The American Standards Association does not engage in trade and cannot give information on selling conditions, but a copy of the price list of American Standards and an offer to supply additional information about standards has been sent Mr. Saryan.

D. Dex Harrison, London, England

Dear Sir: I am writing a book on building standards and wonder whether you could send me publications of the ASA dealing with this subject. I have in mind such works as A62, A62.1 and B, and also two excellent articles on standards written by you for the Encyclopaedia Britannica. So far as I know, the subject of building standards has not previously been covered as a whole, and I wish to make my small book a comprehensive summary dealing with the general philosophy of

(Continued)

standards as well as the actual stages in standardization so far achieved.

D. DEX HARRISON

• • The American Standards Association referred Mr. Harrison also to the file of American Standards maintained by the British Standards Institution.

Safety Glass Test

Remington Arms Company

Gentlemen: We understand there has been some recent change in the performance requirements of the mechanical tests for lenses as covered in American Standard Safety Code for the Protection of Heads, Eyes, and Respiratory Organs, Z2-1938. The standard requires that lenses withstand a drop ball test with a spherical steel ball approximately ⅝ in. in diameter dropped from a height of one meter. We understand that your requirement has been changed to a ⅞ in. diameter ball dropped from a height of 50 or more inches.

P. V. TILDEN
Manager, Safety and Fire Protection Division

• • As far as the American Standard is concerned there has been no change in the drop ball test. We understand that the Federal Specifications for impact-resisting goggles (Federal Specification Goggles; eyecup, impact-resisting GGG-G 501a) have been changed in recent years and that many goggle manufacturers are making their product to withstand the more rigid test of the Federal Specifications. Probably when a revision of the American Standard is next considered they will take into consideration the more rigid tests of these specifications.

Tools for High-Voltage Lines

A. B. Chance Company

Gentlemen: It is my understanding that there is an American Standard covering wood-handled tools for the maintenance of high voltage lines "hot." From the titles I am unable to identify this copy.

W. L. HOLLANDER
Engineering Department

• • There is neither a standard nor a draft of a proposed standard for wood-handled "hot line" tools. We understand the National Safety Council has been making a study of these tools, and that the Edison Electric Institute has published certain papers on the use of these tools.

Building Standards

The Aetna Casualty and Surety Company

Dear Mr. Lawrence: May I congratulate you on the progress you have made in producing the code [on Places of Outdoor Assembly, Z20] to date. I think it is an excellent job.

WALTER S. PAINE
Manager

Industrial Standardization Vol. 16 No. 6

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June, 1945 Ruth E. Mason, Editor **35 cents**

Standardization is dynamic, not static. It means not to stand still, but to move forward together.

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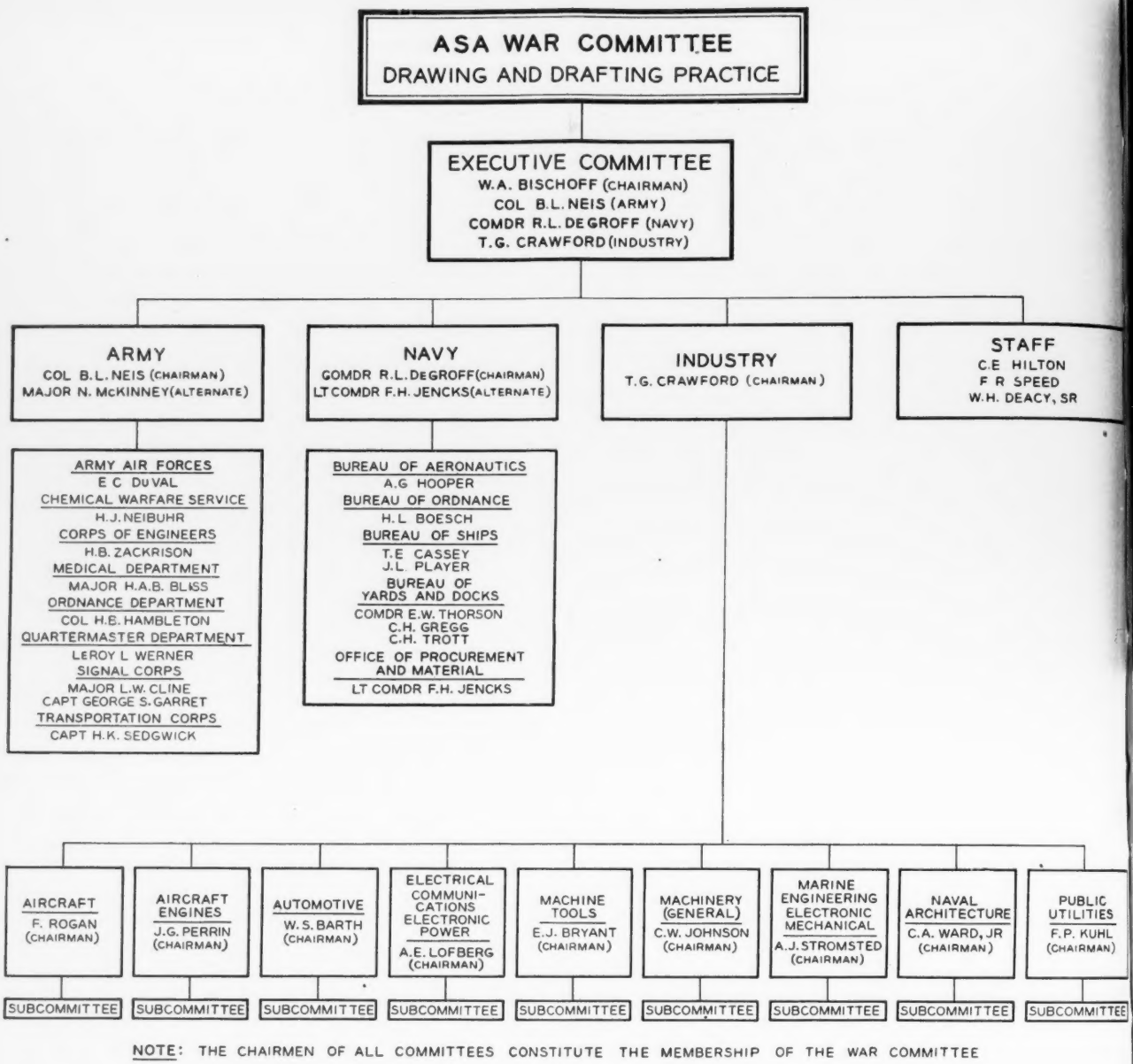


NOTE: THE CHAIRMEN OF ALL COMMITTEES CONSTITUTE THE MEMBERSHIP OF THE WAR COMMITTEE

THE ARMY AND NAVY MEMBERS of the War Committee on Drawing and Drafting Practice are Army and Navy chairmen, respectively, of the Joint Army-Navy Committee on Specifications. Under the authority of directives issued by the Secretary of War and the Secretary of the Navy, they have appointed representatives from each of the Army services and Navy bureaus concerned as members of a Joint Army-Navy Subcommittee on Drafting Room Standards, as shown in the second level of the chart. This Joint Army-Navy Committee collects and correlates Army and Navy drawing practices, and in meetings attended by the chairman of the War Committee Executive Committee and the chairman of the War Committee Industry groups, prepares its proposals for standards and makes recommendations to its members on the Executive Committee. These recommendations and those of the industry committees (third level of the chart) are compiled and coordinated by the ASA staff for consideration by the War Committee.

Members of the War Committee are: Colonel B. L. Neis, Hq, Army Service Forces, Army Chairman of the Joint Army-Navy Subcommittee on Drafting Room Standards; Major N. McKinney, Hq, Army-Service Forces (*alternate*); Commander R. L. DeGroff, Office of Procurement and Materiel, Navy Chairman of the Joint Army-Navy Subcommittee on Drafting Room Standards; Lt Comdr F. H. Jencks, Office of Procurement and Materiel (*alternate*); T. G. Crawford, General Electric Co.; F. Rogan, Chief Draftsman, Beach Aircraft Co.; J. G. Perrin, In Charge of Standards, Pratt & Whitney Aircraft Co.; W. S. Barth, Executive Secretary, Engineering Standards Committee, General Motors Corp.; A. E. Lofberg, Westinghouse Electric Corp.; E. J. Bryant, Director of Research, Greenfield Tap & Die Corp.; C. W. Johnson, American Machine & Foundry Co.; A. J. Stromsted, Chief, Electrical Engineering, Shipbuilding Division, George G. Sharp; C. A. Ward, Jr, Naval Architect, Gibbs & Cox, Inc; F. P. Kuhl, Chief Draftsman, Consolidated Edison Co.

ASA Speeds Drawing-Drafting Project

By William A. Bischoff

Army-Navy cooperates with industry to effect far-reaching economies through standardization of drawing and drafting practices

William A. Bischoff is chairman of the ASA War Committee on Drawings and Drafting Room Practice. He is Drafting Standards Engineer at the Bell Telephone Laboratories, New York.

REPRESENTATIVES of the Army and the Navy, and of the general groups in industry engaged in manufacture of war materiel, met in the offices of the American Standards Association last month and started actual work on one of the most far-reaching standardization projects of the war—a project for the standardization of drawing practice. To bring about speedy action, the work has been organized under the War Standards procedure of the American Standards Association and is going forward with the cooperation of the Army and Navy under directives issued by the Secretary of War and the Secretary of the Navy, as well as with the cooperation of the industry groups concerned.

In this war, as never before, the Army-Navy-Industry team of millions of men and women is fighting on the production front in support of the men in the various theatres of operation. Despite an unparalled record of production, the traditional American free methods of thought and operation have in the past left some serious gaps in the strategy of the team as a whole—and have even seriously circumscribed its tactics.

Lack of Standardization a Serious Impediment

One of the impediments to the efficient functioning of the team is the lack of a standard drawing practice for all branches of the Armed Forces. This basic deficiency has ramifications which extend into fields other than drawing practice; conversely, lack of standardization in related fields is reflected in drawing practice differences. Companies engaged in production under contracts with more than one subdivision of the Services are required to expend considerable effort to assure that each division of the company and each of its subcontractors understands precisely what drawing practices are required, and what interpretations of practice features are cor-

rect. Huge expenditures of money and manpower are still going to waste due to differences in drawing practice and the resultant preparation of ad interim specifications. The representatives of the Armed Forces with whom representatives of industry have had dealings during the war have been cooperative and have tried to see industry's point of view in these problems, but the lack of effective machinery, until the organization of the present program, has made it difficult for members of the Armed Forces to put into effect any real coordination in drawing practices.

The Old Abbreviation Problem

The apparently minor problem of abbreviations, for example, is troublesome because of the great number and variety that are used. The resultant confusion just begins in the drafting room; it extends into the related design, production, inspection, and maintenance engineering work; it wastes manpower all along the line. Since the meeting last month, the subcommittees of the Joint Army-Navy Committee, referred to on the chart facing page 113, have compiled a list of 3,000 abbreviations, many of them contradictory.

Sizes of drawings and their format vary considerably, and this is a contributing factor to the necessity for redrawing where identical parts and assemblies are furnished to different agencies. Directly involved with drawing sizes is the question of one-drawing-per-sheet as required by some agencies, versus several-drawings-per-sheet as required by others, which is in part affected by filing considerations. The methods of reproduction are closely related to drawing sizes in that they involve consideration of drawing scales and lettering sizes to assure clarity at the intended reduction. A survey is now being made to determine how many and what sizes are actually in use.

Varying Technical Requirements Confuse Contractors

Of much greater importance, however, are the differences in the nature and the extent of the various kinds of technical information which are required on drawings, and the manner of their representation. Such differences confuse contractors' personnel and, consequently, retard the progress of work in industry through hesitancy and through errors.

Conventions for the representation of screw threads, while intentionally simple, are confusing, nevertheless, where more than one practice is encountered. In like manner, differences in graphical symbols, even though they may be minor, are confusing.

The complex question of dimensions on drawings can be cleared up in at least one helpful way through simplification and standardization of the methods of expression. Different agencies have used different methods, while other agencies accept the contractor's normal method of expressing dimensions and tolerances. Each different method is, to a greater or less degree, reasonable in itself; the variety, however, causes confusion in the minds of draftsmen and fosters misinterpretation of drawings by users. The methods of expressing dimensional values must be simplified and standardized if a common understanding

What the Manual Will Contain

The new Manual of Standard Drawing Practice will include sections covering the entire range of drawing problems, and will be a loose-leaf book which can easily be kept up to date. The main body of the book, as planned at present, includes the following chapters and sub-sections.

GENERAL DRAWING PRACTICE
- Projection
- Line Conventions
- Sections and Sectioning Conventions
- Scale
- Lettering
- Screw Thread Indication
- Ink Drawings
- Pencil Drawings
- Methods of Reproduction

DRAWING FORMS
- Sizes and Formats
- Title Blocks
- Revision Blocks and Record (Material Lists)
- Change Classifications (Effective Date, etc)

DIMENSIONING AND TOLERANCING
- General
- Methods of Dimensioning and Placing Dimensions
- Dimensioning Symbols and Conventions for Interchangeability, Concentricity, Parallelism, Perpendicularity, etc.
- Dimension Type, Fractional, Decimal, Feet, Inches
- Tolerances—General

FINISHES
- Additive
- Subtractive
- Formative

MATERIALS
- Indication
- Method of Specifying
- Referencing on Drawing

SYMBOLS
- Mechanical
  - Heating, Ventilating and Air Conditioning
  - Plumbing and Piping
- Electrical—Electronic
- Structural

Symbols (Continued)
- Architectural
- Mathematical
- Welding

ABBREVIATIONS
- Indexed by Words
- Indexed by Abbreviations

TYPES OF DRAWINGS—GENERAL
- Parts Drawings
- Detail Drawings
- Sub-Assembly and Assembly Drawings
- Installation Drawings
- Requirement Drawings
- Master Plans
- Ship Plans
- Test Record Plans and
- Outline Drawings for Commercial Items
- Drawings for Publications

DIAGRAMS AND CHARTS—GENERAL
- Charts and Graphs
- Diagrams
  - Cable Assembly
  - Duct and Ventilating
  - Electrical Schematic
  - Framing
  - Gearing Schematic
  - Hydraulic
  - Lubrication
  - Optical
  - Piping
  - Wiring

LISTS
- Lists of Drawings
- Lists of Parts, Bills of Materials, etc
- Lists of Specifications
- Spare Parts Lists

DRAWING NUMBERS AND PART NUMBERS
- Assignment
- Location on Drawing
- Relation to Changeability
- Indication of Marking on Part

It is expected that other subjects will be added as the work progresses.

of the dimensions expressed on drawings is to be achieved, thus eliminating the present widespread misinterpretations of engineering intent.

Many of the questions to be considered in connection with the expression of technical information on drawings involve more fundamental and far-reaching problems of industrial practice. For example, the methods of indicating a subtractive or machine finish, *i.e.*, the required or allowable roughness or smoothness of a surface, presents a complex question due to the fact that for some surface conditions there are many different specifications, whereas for others there are none at all. The methods of specifying additive finishes, such as plating, paint, lacquer, enamel, etc., for protective or appearance purposes also involve many specifications and different practices. The nature and the arrangement of the information relating to materials of construction are different, and this difference alone has caused no end of difficulty.

Another phase of the subject which in some instances affects the ultimate user of the part controlled by the drawing, that is, the serviceman who must maintain the equipment, possibly in the zone of combat, is the method of executing drawing revisions. There are involved the questions of how the revision is indicated on the drawing and whether the change is recorded in detail on the drawing or on a separate paper. This same item involves a question of the mechanics of the exchange of information between the contractor and the Service agency relating to changes of drawings for product which, while continuing in production, have already been placed in service with the Armed Forces.

Smooth Functioning Starts at the Drawing Board

The relationship of drawing number to part number and the nature and the extent of the technical information involved, and the history of that relationship in the present conflict, are simply astounding. It starts on the drawing board; it is manifest wherever the word "supply" has meaning; and it has its climax right on the spot where the fighting is done.

Although, in places, there has been recognition of the fact that these divergent practices have been penalizing the war effort at a cost of countless thousands of hours and dollars, their full extent has not been comprehended because the coordinated means of assessing the problem did not exist prior to the initiation of the new American War Standard project. The first step in the new program is to collect and correlate all the information available concerning the current drawing practices of the Army, the Navy, and industry. This is now being done by subcommittees in the subdivisions of the Services and the general industry groups.

Drawing Standardization a War Project

The work on drawing standardization was organized by the American Standards Association as a war project at the request of the War Production Board. The Secretaries' directives previously mentioned have established a joint Army-Navy subcommittee which will provide technical advice concerning the needs of the Services, will assist the War Committee in developing the standards, and will coordinate standardization activities within the Services.

This subcommittee already has collected from its sub-groups in the Services a great amount of detailed information concerning drawing sizes, symbols, and, as previously noted, abbreviations.

The War Committee of the American Standards Association, which will make the final decision as to the standards to be recommended for final approval, is organized as shown by the chart facing page 113. The actual work on the standards is being done with the assistance of a special staff in the ASA offices, and by the chairmen of the subgroups in the War Committee. Members of the subgroups are now being appointed.

Although the work of the War Committee will cover a wide range of subjects concerned with drawing practice (see page 114), several on which it is expected that action can be taken soon have been selected for first consideration and for completion immediately. These are:

Abbreviations
Methods of indicating and specifying threads
Methods of lettering
Drawing forms and sizes
Graphical, diagrammatic, and schematic symbols

Work will also go forward as soon as possible on methods of specifying dimensions, materials, and finishes, and on the numbering of drawings.

It is expected that the work now being done in Great Britain on drawing office practice in relation to interchangeable components will eventually be studied in connection with certain phases of the war project. The British program is described in a paper by C. A. Gladman, B.Sc., A.M. I.Mech.E., which is available from the ASA.

For the convenience of those using the new American War Standards, they will be included in a loose-leaf binder to facilitate maintenance. The present plan is to work ahead as fast as possible on the most urgent problems, issuing standards on parts of the work as quickly as possible and later fitting the pieces into a comprehensive and coherent manual that will cover the entire subject of drawing practice.

The work will be expedited by the fact that the American Standards Association already has committees working on several of the subjects included in the plan of the War Committee. For example, the task of correlating the amount of data in connection with abbreviations alone is so huge that a subgroup of the ASA Sectional Committee on Abbreviations for Scientific and Engineering Terms has undertaken the collection and the coordination of the abbreviations used by industry. These will then be coordinated by the War Committee with those presented by the joint Army-Navy subcommittee, as previously noted.

War-born Standards Should Be Improved in Peacetime

While the greatest effort of the War Committee must be directed at a solution of problems which are hindrances to our present and future activities in this war, it is hoped that the standardization which is accomplished during the war will not be abandoned in the years of peace. The war-born standards should be improved and expanded wherever necessary, and kept abreast of contemporary conditions. This will be the job of the sectional committee operating under the leadership of the American Society of Mechanical Engineers and the Society for the Promotion of Engineering Education.

In the years ahead, the team of Army-Navy-Industry must maintain

its coordinated efforts to assure the continuance of a practicable and effective drawing practice standard. Failure to do so may be inviting national failure through the collective penalty of wasted manpower, errors, and delays in production and procurement, improper marking of product, wasted storage space and ship bottoms, loss of confidence in our national ability and their consequent squandering of our time and our substance.

Mexican-U.S. Committee Studies Standards for Agricultural Products

The Mexican-United States Agricultural Commission, meeting in Washington recently, appointed a permanent subcommittee to inquire into the practicability of establishing standards and grades for agricultural products important in trade between Mexico and the U. S.

Labeling of Products Decreed by Soviet

From the "N. Y. Times", May 27, 1945

The Soviet Council of People's Commissars, in an effort to "improve the quality of goods of wide consumption," has issued a decree requiring "proper" package labeling and setting up "conditions and specifications" to be met in their manufacture, the Russian radio at Khabarovsk said in a domestic broadcast reported by the Federal Communications Commission.

The decree "forbids enterprises to turn out goods without properly labeling or marking them" and provides that they "must be produced under technical conditions and according to specifications" determined by special commissions in the various federated republics of the Soviet Union.

Under the decree, "food, cosmetics, cooking utensils and other commodities that may affect the health of the consumers" must meet certain specifications and also must pass sanitary inspection, the Khabarovsk broadcast said.

"Industrial enterprises," it added, "must set up bureaus that will be responsible for the quality of the products manufactured."

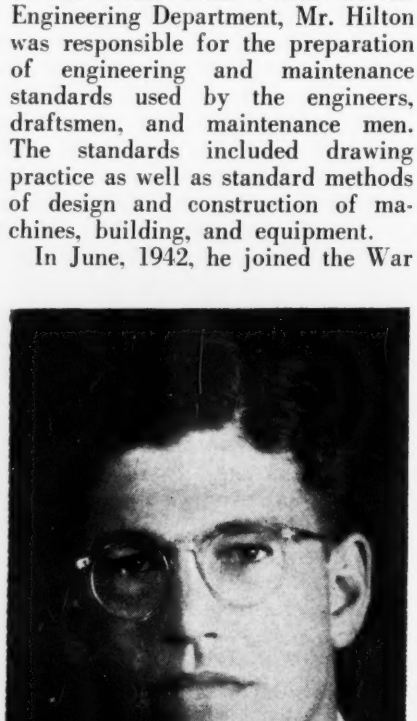
Three Engineers on ASA Staff For War Project on Drawings

Hilton, Speed, and Deacy, Sr., Plan Fast Work on Drawing Standards

THREE new engineers, in addition to clerical assistants, have been added to the staff of the American Standards Association to carry forward as rapidly as possible the work of preparing a Manual of Standard Drawing Practice under the American War Standards procedure. The new staff is headed by Charles E. Hilton, who is leaving the Industrial and Consumer Products Branch of the WPB Office of Production Research and Development, to join the ASA staff. Assisting Mr. Hilton are Frederick R. Speed and William H. Deacy, Sr.

Mr. Hilton has had experience in standardization work with the Eastman Kodak Company where he worked for seven years, first in the Material Standards Department and later in the Engineering Department of the Kodak Park Works. In the Engineering Department, Mr. Hilton was responsible for the preparation of engineering and maintenance standards used by the engineers, draftsmen, and maintenance men. The standards included drawing practice as well as standard methods of design and construction of machines, building, and equipment.

In June, 1942, he joined the War Production Board, where he served in a liaison capacity between the Simplification Branch of the Bureau of Industrial Conservation, under the direction of Howard Coonley, and the Industry Divisions which regulated consumer durable goods and service equipment industries. During 1944 Mr. Hilton served as alternate representative for the Conservation Division on the WPB Order Clearance Committee which considered WPB orders for approval before they were issued. When the Conservation Division was dissolved in November, 1944, Mr. Hilton joined the staff of the Industrial and Consumer Products Branch of the WPB Office of Production Research and Development. This office is responsible for evaluating research projects, placing contracts for them, then coordinating the work and using it to best serve the war effort. The projects included war housing, with emphasis on prefabrication, textile production problems, and development of machinery and equipment for increasing the production of vitally needed war materials.



Charles E. Hilton

Frederic R. Speed has been active in various branches of mechanical and automotive engineering for many years, having been associated with manufacturers of components as well as producers of automotive vehicles and engines. He served overseas in the U. S. Air Service in World War I. On his return to this country, he rejoined the Packard Motor Car Company as assistant technical service manager. His special interest has been fuels and lubricants for automotive and other internal combustion engines. He has served also in technical and executive capacities with the Standard Oil Company of New Jersey, the Ethyl Gasoline Corporation and as consulting engineer for the Pennsylvania Grade Crude Oil Association.

At the outbreak of World War II he was called to Washington to help organize the Engine Branch of the War Production Board, serving as executive officer of this branch for nearly two years. Later, he became associated with the Conservation Division of WPB, serving as Consultant to the Engine and Farm Machinery Divisions in which work he was closely concerned with the aims of standardization.

William H. Deacy, Sr. is widely experienced in the engineering and architectural fields. He served as consulting engineer with the Submarine Defense Association during World War I. In 1919 he entered the building field as a registered architect with offices in New York.

At the outbreak of World War II he joined the engineering staff of Fairchild Aircraft in New York City. His observations and experience there led to an active and constructive interest in the development of an urgently needed standard for drawings.

Brazilian Standards Association Reports Progress on Standards

Standards for electrical and refractory materials, paints, and vegetable oils will be among subjects discussed at the sixth annual meeting of the Brazilian standardizing body, Associação Brasileira de Normas Técnicas (ABNT) to be held in June in the cities of Rio de Janeiro and Belo Horizonte consecutively.

Despite the problems of wartime, ABNT is progressing satisfactorily with its standardization program and a comprehensive program has been planned which will consider methods of analysis of ores (manganese, titanium, aluminum, and iron), structural and design standards, as well as standards for electrical materials, paints and varnishes, vegetable oils, refractory materials, and a number of others.

Progress on Standards in China

The Chinese Standards Commission is developing standards of accuracy for machine tools, using the American Standard form of presentation but the Schlesinger-German values, Dickson Reck, standards adviser to the Chinese Government reports. He adds that the CSC Mechanical Committee hopes to develop standards for milling machines, shapers, drills, and other general purpose tools, also.

Dr. Beue Tann, chairman of the CSC, and S. T. Shang, secretary, are planning a reorganization of the Chinese Standards Committee structure including the procedure and methods of planning the work.

An entire one-day meeting of the Metropolitan Section of the American Society of Mechanical Engineers, New York, May 8, was devoted to the discussion of quality control methods in industry.

Speakers and their subjects were:

C. R. Scott, SKF Industries, Philadelphia, "Precision Bearing Quality Control"
L. S. Young, Westinghouse Electric & Manufacturing Company, Springfield, Mass., "Control of Machining Processes"
H. S. Basche and W. A. Bradof, Radio Corporation of America, Harrison, N. J., "Parts Preparation Control for Radio Tubes"
J. H. Campbell, General Electric Company, Schenectady, N. Y., "Analysis of Special Radio Test Tubes"
J. R. Steen, manager of quality control, Sylvania Electric Products Company, Emporia, Pa., "Radio Tube Finishing Controls"

Dr. Walter A. Shewhart, Bell Telephone Laboratories, spoke at luncheon on "Some Straws in the Wind."

C. R. Scott, of SKF Industries, discussed quality control as followed by his company for precision bearings. His talk is given here in part.

How SKF Industries Uses Quality Control Standards

Approximately 700 or 800 machines grinding 200,000 parts a day to a tolerance of two or three ten-thousandths of an inch must be closely controlled and these parts measured and compared. Considering the variability of man, machines, and materials we realize that perfection is impossible, yet scrap and reoperation are costly and material is scarce. It should be noted that in quality achievement the law of diminishing returns takes effect. As perfection is approached, costs rise to disproportionate heights; therefore we must reconcile quality production with quantity production.

The maintenance of accurate records is costly, but if from this data scientific procedures can be established, reducing the amount of inspection necessary, the cost is justified.

The responsibility for control and quality rests with the separate organization known as the Quality Control Department. Procedures, application of statistical control, sampling, etc, are handled by the Quality Control group. We feel that the control of six major points will result in a quality product.

(1) The operator who makes the product.
(2) Specification requirements.
(3) Inspectors' reliability.
(4) Inspection sequence.
(5) Tools and gaging equipment.
(6) Percent of defects in product.

In the assembly of ball bearings, it is important in the functioning of the bearing that the radial clearance be controlled. In order to obtain a fair understanding of how fits are procured it is important to pay attention to the probability of obtaining a fit close to the theoretical average value and also the probability of obtaining the maximum and minimum clearance. Without a correct understanding of this problem the result will be that an unnecessarily close tolerance zone will be specified. Control charts are placed upon the groove diameters and by the use of the control lines and limits we choose to call "Extreme Acceptance Limits" fit control and inspection are performed.

Further inspections are made on the finished product in stock. This inspection is of relatively small samples but is made in considerable detail. The picture presented here is in the form of rates, the seriousness of the defect being weighed with a demerit value.

It has been proven that it is just as necessary to check dependability of an inspector as it is necessary to check the dependability of the measuring equipment. The inspector's work is checked at frequent intervals and a "Quality Rating Number" is established.

We are certain that the application of statistical methods has effected certain worthwhile economies and that the quality of our product has been maintained. We know that there is still much to be done and we are confident Quality Control will prove to be a very useful management tool in the trying period ahead.

NFPA Committees Recommend Changes in Fire Protection Standards

By Robert S. Moulton

Technical Secretary, National Fire Protection Association

THE National Fire Protection Association, nonprofit technical and educational membership organization devoted to the reduction of loss of life and property by fire, has developed some 200 separate standards and good practice manuals dealing with various phases of the control of fire and explosion hazards and fire extinguishment.[1] These standards are handled by 50 technical committees having an aggregate membership of more than 1000, which provide a broad representation in the fire protection field and for the numerous other interests concerned. Many of the NFPA standards have been submitted to the American Standards Association and approved as American Standards.

Wartime Ban on Conventions Affects Procedure

The war-time ban on conventions has this year resulted in a change in the usual routine of the NFPA in developing new standards or acting upon amendments of existing standards to keep them up-to-date. Usually all proposed standards are preprinted and circulated to all members of the Association and others interested prior to action by the Annual Meeting, which provides an open forum for the discussion of committee reports and gives an opportunity for any dissenting interest to secure complete consideration of its views. This year the NFPA Board of Directors is to be constituted as a legal meeting of the Association on June 26 and the 10,000 members are being canvassed through a letter ballot. Committee work during the war period has been limited to matters of immediate application to war industry and other phases of the war effort. Accordingly, only 17 of the NFPA technical committees have submitted reports this year. A number of these reports, which were printed in the NFPA 1945 *Volume of Advanced Reports*, should be of interest to the readers of INDUSTRIAL STANDARDIZATION.

Building Exits

Amendments to the Building Exits Code, American Standard A9.1-1942, are proposed by the NFPA Committee on Safety to Life. Among several matters covered in this report one which has been discussed in the committee for several years is the problem of providing adequate exits in large-area manufacturing buildings such as those used for aircraft assembly lines. One of the provisions of the Building Exits Code specifies that exits shall be so located that from any point in the building it will be possible to reach an exit within a specified maximum distance of travel. The distance specified varies in accordance with the fire hazard in the particular occupancy and the protection provided. The maximum distance under existing provisions of the Building Exits Code is 150 feet under the most favorable conditions. It is manifestly impossible in the case of a building 400 feet wide to provide any of the usual type of exits within 150 feet of the center of the building and the area cannot be subdivided by fire walls to provide horizontal exits between sections without interfering with manufacturing operations. In the 1945 report the committee has covered various ways of meeting this problem. This report also presents a complete revision of the previous treatment of fire alarm systems in the Building Exits Code, some suitable form of alarm system being considered essential in a large building so that the occupants will have notice of fire in time to escape from the building.

Dust Explosions

A new code for the prevention of dust explosions in the plastics industry, which after adoption by the NFPA is to be submitted to the ASA for approval, has been prepared by the Association's Committee on Dust Explosion Hazards which is also reporting on amendments to the Code for Pulverized Coal Systems and the Code for the Prevention of Magnesium Dust Explosions.

The NFPA Committee on Explosion Venting is presenting a preliminary draft of a code for venting explosion pressure, intended to provide the means for minimizing potential explosion damage to buildings and process equipment where explosive dusts, gases, or fumes may be present. This report discusses the size of vents in relation to the interior volume, the types and locations of venting facilities, and the differences in venting provisions needed in the case of different classes of explosive materials. The committee emphasizes the fact that means provided to minimize explosion effects must recognize the dynamic forces involved and that ordinary types of pressure venting suitable for relieving static pressures are not necessarily suitable as explosion vents.

Air Conditioning

The Committee on Air Conditioning is proposing amendments to the NFPA Standards for the Installation of Air Conditioning, Warm Air Heating, Air Cooling, and Ventilating Systems. These amendments pertain to details of duct construction.

Fire-Resistive Record Vaults

Revised specifications for Fire Resistive Record Vaults are submitted by the NFPA Committee on Protection of Records. These specifications are intended to provide security for the contents of vaults under the most adverse fire conditions, assuming complete burn-out of the building, with no water applied, as under severe conflagration conditions.

[1] Published by National Fire Protection Association in the National Fire Codes, Vols I, II, III, and IV, and in various other books and pamphlets. A number have also been adopted and published by the National Board of Fire Underwriters and by other organizations.

New Paint Process Covered

Proposed new NFPA Standards on Paint Spraying and Spray Booths cover the new electrostatic process of paint application in addition to the recognized fire hazards of the usual type of paint spraying.

Other NFPA technical committee reports printed this year, for the most part minor changes in existing standards or reporting progress, deal with aircraft fire fighting, farm fire protection, fire extinguishers, outside protection, standpipe and hose systems, fire pumps, firemen's training, gases, general storage, manufacturing hazards, piers and wharves, and special extinguishing systems.

Iddles Elected Vice-President By Babcock & Wilcox

Alfred Iddles, chairman of the Mechanical Standards Committee of the American Standards Association and representative of the American Society of Mechanical Engineers on the ASA Standards Council, has been elected vice-president of the Babcock & Wilcox Company. Mr. Iddles was formerly Application Engineer in charge of the Service and Service Engineering Department which provides the functional design of boilers and fuel-burning equipment for the company. His duties have now been extended to include supervision of certain of the engineering activities.

Insulator Makers and Users Benefited by Revised Tests

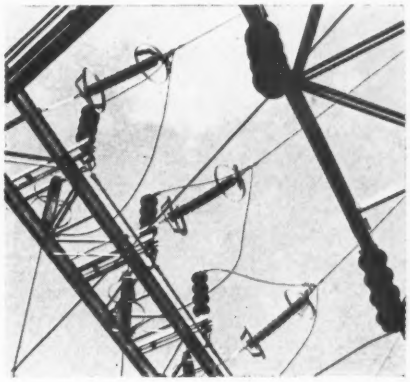
By R. A. Havourd

Experience proves necessity for inclusion of wet and dry low-frequency withstand voltage tests and alternate thermal procedure for pin-type insulators in recently revised code.

INSULATORS for supporting electrical conductors must be of the highest quality to maintain the present-day high standards of service continuity. The American Standards Association accordingly has approved the revised American Standard for Insulator Tests, C29.1-1944, in order to provide modern standard methods for checking new insulator designs, maintaining a manufacturing control on insulators in production, and making purchasers' acceptance tests of insulators.

This new standard is a revision of the American Institute of Electrical Engineers' standard, "Insulator Tests," No. 41, March 1930, which was also approved in 1930 by the American Standards Association as American Standard C29a-1930. The extent of the revisions of and additions to the 1930 edition is indicated by the relative sizes of the old standard (11 pages) and the new standard (22 pages).

The need for a revision of the



1930 standard was recognized several years ago, and in 1941 a proposed revision known as "Insulator Tests", AIEE No. 41A, March 1941, was published by the American Institute of Electrical Engineers. Since this revision covered many tests not included in the 1930 edition and added many details to most of those tests which were covered, no attempt was made to have the revision accepted as a standard until after several years' experience with it. Experience did prove the 1941 revision to be quite satisfactory. In fact, the inclusion of the wet and dry low-frequency withstand voltage tests, and an alternate thermal test procedure for small one-piece pin-type insulators were the only major changes made in the 1941 proposed revision before acceptance by the American Standards Association.

Scope of Revised Standard Widened

Because of the magnitude of the revision of the 1930 standard, some explanation may be helpful. This standard covered only two types of insulators—pin-type and suspension. In contrast, the new standard includes pin-type insulators, suspension insulators, switch and bus insulators, guy insulators, spool insulators, wire holders, bushings, and tubes.

The electrical tests outlined in the 1930 edition for both pin-type and suspension insulators were 60-cycle wet and dry flashover, puncture, and

Electrical engineers, makers of insulating materials, government departments, and organizations representing users of insulators were all members of the Sectional Committee on Insulators for Electric Power Lines, C29. Members of the committee were:

J. A. Brundige, ASA Electric Light and Power Group, *Chairman*
R. M. Havourd, American Society for Testing Materials, *Secretary*

American Ceramic Society, *Grover W. Lapp*
American Institute of Electrical Engineers, *R. E. Argersinger; F. M. Farmer; W. W. Lewis; J. R. North; C. F. Wagner*
American Society for Testing Materials, *U. E. Bowes; V. F. Hammel; R. M. Havourd; H. A. Wadman*
American Transit Association, *H. E. Bachman*
Association of American Railroads, Engineering Division, Electrical Section, *H. F. Brown*
Association of American Railroads, Engineering Division, Signal Section, *G. C. Felton*
Corning Glass Works, *J. T. Littleton*
ASA Electric Light and Power Group, *J. A. Brundige; R. R. Cowles; T. H. Haines; W. G. Kelley; H. S. Phelps; Philip Sporn*
National Bureau of Standards, U. S. Department of Commerce, *F. B. Silsbee; P. H. Bates (Alternate)*
National Electrical Manufacturers Association, *W. H. Burleson; H. A. Frey; G. I. Gilchrest; L. B. Harvey; H. B. Vincent*
U. S. War Department, *William K. Cave*
Member-at-Large, *K. A. Hawley*

Copies of the American Standard, Insulator Tests (C29.1-1944; AIEE No. 41-1944) can be obtained from the American Standards Association at 40 cents each.

R. A. Havourd, chairman of the Sectional Committee on Insulators for Electric Power Lines, C29, is engineer on the staff of the Public Service Electric and Gas Company, Newark, N. J.

corona and, for suspension insulators only, high-frequency flashover. The American Standard Insulator Tests, C29.1-1944, covers all these tests for all types of insulators and in addition includes a low-frequency withstand voltage test, an impulse withstand voltage test, an impulse flashover voltage test, and a radio-influence voltage test. The old standard described a method of applying a humidity correction to flashover values in order to make more uniform results possible. The new standard, in addition to this correction, includes a method for correcting flashover values to standard air density.

At the time the 1930 specification was approved, no radio-influence voltage tests had been developed and the need for them was not great. Likewise, at that time, the knowledge of lightning and the general lack of surge-testing equipment precluded the establishment of surge tests. As noted above, these tests are included in the new standard.

The mechanical tests described in the 1930 standard were very meager indeed. Those for suspension insulators were tensile strength, combined mechanical and electrical strength, thermal, and porosity. There were no mechanical tests for pin-type insulators. The new standard includes tensile, combined mechanical and electrical, torsional, cantilever, compression or impact strength tests as required for all types of insulators. Other mechanical tests in addition to strength tests are thermal, porosity, pinhole gaging, and galvanizing tests.

Mechanical strength tests, of course, as the name indicates, are used to determine the mechanical strength and uniformity of strength of the insulators.

The thermal test as outlined in the 1930 standard specified only one temperature differential for all types of insulators. The new standard lists different limits for the various types of insulators. In fact, for small one-piece pin-type insulators, it provides an entirely new alternate method and temperature limits. These thermal tests, together with the porosity test, provide an indication of the degree of vitrification which in turn is an indication of the mechanical and electrical strength.

The pinhole gaging test is also a very worthwhile addition. Its application should lead to the production of insulators which will better fit the pins on which they are to be mounted.

The addition of both mechanical and electrical tests and the more detailed procedure outlined for those tests originally included were considered necessary to assure the production of high-grade insulators and to provide uniform test procedures which would give consistent results on the same specimen when tested in any laboratory. To accomplish this end, the new specification covers, with much more detail, exactly how the test set-ups shall be made and exactly how the tests shall be performed.

This new American Standard, C29.1-1944, is a tool of great value to both manufacturers and purchasers of insulators. Maximum value and maximum benefit will only result from general and prompt acceptance. It is, therefore, strongly urged that all who may have use for American Standard C29.1-1944 take immediate steps to modernize their present purchasing and manufacturing procedures to conform with it.

Australia Proposes Standards on Moisture Regain of Wool Yarn

American wool interests, meeting May 9th in New York under the auspices of the American Standards Association, registered their approval of an international undertaking to harmonize national practices as to moisture regain of wool yarn, recommending that the ASA participate.

The proposal, which was made by the Standards Association of Australia, arises from the fact that wool is a hygroscopic material which changes its moisture content depending upon the climatical condition surrounding it. It follows, therefore, that when the atmosphere is humid, wool will weigh more than when the atmosphere is dry. This fact is not always recognized in the buying and selling of wool. American industry has for some time met the situation by resorting to the practice of weighing wool yarn and selling it on a weight basis, calculated to include a specific and invariable theoretical moisture of from 10 percent to 13.6 percent depending upon the type of wool yarn. In Great Britain, climatic conditions have required standardization at 18¼ percent.

The Australians' proposal is that the regain billing practices used by the several wool growing, manufacturing, and trading countries who are members of the United Nations Standards Coordinating Committee be brought into harmony with each other in order to simplify the buying and selling of wool in world markets. Herbert J. Wollner, head of the New York office of the United Nations Standards Coordinating Committee, stated that the Australians' proposal was being submitted to the national standardizing bodies of other countries as rapidly as possible and that future action of the Central Office would depend upon their reply. First step will be an interchange of information among the various countries as to national usage.

The decision of the American groups to participate in discussing this problem with the Australians through the channels provided by the United Nations Standards Coordinating Committee is in line with the attitude expressed by other trade and business groups here and abroad who recognize the fundamental need in future international trade for promulgation on the widest possible scale of merchandising and manufacturing practices now in use.

American industrial groups represented at the meeting were:

- American Association of Textile Chemists and Colorists
- American Society for Testing Materials
- American Wool Council
- Boston Wool Trade Association
- Hand Knitting Yarns Industry
- National Association of Hosiery Manufacturers
- National Bureau of Standards
- National Retail Dry Goods Association
- National Association of Wool Manufacturers

The Office of Marketing Services, Wool Division, War Food Administration, and the Federal Trade Commission had observers at the meeting.

Standard Method of Measuring Camera Noise

Will Help Eliminate Undesirable Sounds in Motion Picture Sound Recording

By Gordon Sawyer

Chairman, ASA Subcommittee J on Camera Noise Measurements of War Committee on Photography and Cinematography, Z52; Samuel Goldwyn Studios

NOISE in the form of undesirable signals on the sound track is one of the ever present problems encountered by motion picture sound engineers. One troublesome phase of this problem is due to the noise made by the motion picture camera itself. As the technique of motion picture sound recording and film processing has improved, such extraneous noises have become increasingly audible from the reproduced sound track and consequently it has become of increasing importance that they be reduced.

For many years, noise-level measurements have been made on cameras in the studios and by the electrical companies, and as early as 1937 much of this work was correlated under a committee of the Research Council of the Academy of Motion Picture Arts and Sciences.

The conditions under which camera noise should be measured were determined and specified by this committee and representative studio cameras in general use in the industry were measured to determine their noise characteristics. This method was never adopted as an industry practice, however, nor presented for standardization because, although the results were sufficiently accurate consistent with the stage of the art, the method calls for test equipment and measuring conditions not readily available. The equipment is expensive and requires highly trained personnel for its operation.

Also, although the same general method is used in measuring the noise level of studio production cameras, each method differs from the other in detail because of the different types of cameras in use and because differences in studio techniques result in different criteria in many cases.

When the War Committee on Photography and Cinematography, Z52, was organized under the procedure of the American Standards Association to develop national standards for use by the Army and Navy, the question of camera noise was one of those presented for consideration. As a result, Subcommittee J was organized to work on standard methods of determining the noise level of motion picture cameras.

In considering the problem of setting up a War Standard on camera noise level measurements, Subcommittee J decided to make no attempt to set up a specification for absolute measurements but rather to establish a method which would give relative results and thus be of practical value. Such a standard has now been completed, and approved as American War Standard Method of Determining Noise Level of Motion Picture Cameras, Z52.60-1945.

The standard describes a practical method of making noise-level measurements on motion picture cameras and the conditions under which such measurements shall be made.

For testing purposes, the standard specifies an enclosure having a noise level lower than 24 db or with a noise level of 6 db less than the camera to be measured. Also, the reverberation time of the enclosure must be sufficiently low so as not to influence the noise-level measurements too greatly.

The sound-level meter to be used is to be in accordance with the American Standard Sound Level Meters for Measurement of Noise and Other Sounds, Z24.3-1944, it is specified. The camera to be measured is set up on a tripod with film and lenses to simulate operating conditions.

The test procedure is as follows: After calibrating the meter, the room noise and the combined room and camera noise are measured at a microphone distance of 12 ft from the camera aperture. The meter is then moved to a position where the microphone is 3 ft from the camera aperture. The combined room and camera noise are first measured and

Army, Navy, Motion Picture Experts Members of Subcommittee J

The Army and Navy, as well as motion picture, electrical, and radio experts, were members of Subcommittee J on Camera Noise Measurements that prepared the American War Standard Method of Determining Noise Level of Motion Picture Cameras. They were:

Gordon Sawyer, Samuel Goldwyn Studios, *Chairman*
W. F. Kelley, Research Council, Academy of Motion Picture Arts and Sciences, *Secretary*
Capt L. T. Goldsmith, War Department, Army Pictorial Service
Lt W. C. Hoch, Navy Department, Bureau of Aeronautics
F. L. Hopper, Western Electric Company
Fred Ireland, General Radio Company
Capt C. H. Phillips, AAF Air Technical Service Command
Michael Rettinger, RCA Victor Division, RCA
John Stack, 20th Century-Fox Studios

Copies of the standard can be obtained from the American Standards Association at 25 cents each.

then the maximum camera noise through a ± 90 deg pan and through a ± 45 deg tilt.

In arriving at this specification, consideration was given to the following four general requirements for camera noise measurements:

(1) A very quiet location.

This requirement calls for an enclosure having sufficient acoustic insulation to exclude outside noise or at least an enclosure with a noise level sufficiently below the noise level of the equipment under test so that serious error will not be introduced in the measurements.

This problem was solved practically by establishing a minimum camera noise level which this method can measure, namely, 30 db. The sound-level meter called for is not accurate below levels of 24 db and the 6 db differential is necessary between the room noise and the camera noise (both levels must be measured by this meter) to introduce an error of not more than 1 db in the test measurements by extraneous noise.

Experience has shown that these two levels are obtainable on a studio sound stage, where this type sound-level measurement is expected to be made. The Armed Forces are making acceptance noise-level tests of cameras without blimps so that in general all types of cameras will have a noise level above 30 db. Where the noise level is below 30 db, the camera will be acceptable.

(2) Proper maximum ratio between the direct and reverberant sound.

One characteristic of an enclosure is that it is reverberant. Reverberation tends to obscure the direct sound from the camera and therefore may lead to false conclusions as to the intensity of the noise unless the ratio between the direct and reverberant sound is sufficiently high.

The specification as set up includes a method of determining whether this ratio is sufficiently large for measurement purposes. Measurement positions of 12 and 3 ft from the microphone to the aperture plate of the camera are called for. If the measurement at 3 ft is at least 6 db greater than the measurement at 12 ft, the maximum error introduced into the measurements by the reverberant sound is 1 db.

Enclosures with reverberant characteristics which will meet this requirement are also available in recording studios.

(3) Test equipment sufficiently sensitive to be accurate at the levels being measured.

Equipment to measure sound levels below 24 db is not readily available, is expensive, and is somewhat difficult to operate. In addition, an enclosure with a noise level of less than 24 db is difficult to locate and would be very expensive to construct. Consequently, these minimum levels were set to make this method practicable, both from an equipment and room standpoint. At the same time, it is realized that cameras are being built which have a noise level of less than 30 db and for some types of studio work a noise level of less than 30 db is necessary. In such cases a special room must be used and the test procedure be changed. However, the measurement of such cameras is beyond the scope of this specification, which is primarily an acceptance test for purchasers and manufacturers.

(4) An analysis of the frequency components and the distribution of noise about the camera.

The first measurement mentioned involves additional special equipment and it was felt unnecessary to include a frequency analysis of the noise. Such a measurement is desirable, as some components are more audible in reproduction than others, but this requirement was omitted from this standard until frequency analyses become more generally used. The noise distribution about the camera was taken into consideration by calling for a measurement of the camera noise through a pan of ± 90 deg from the optical axis and a measurement through a tilt of ± 45 deg. The spherical angle covered by these two measurements includes all normal microphone positions and provides a rough check on the end thrust adjustments of motor bearings, which might become noisy as the camera tilts. Practically, the noise from the front of the camera is likely to cause the greatest difficulty in recording, which has been borne out on measurements made on several types of cameras. However, cameras so measured may give difficulty in recording where extreme set conditions reflect into the microphone noise level peaks of an abnormal polar characteristic.

Also Includes Specific Requirements

The specification is set up on the above general requirements. In addition, certain specific requirements mainly pertaining to the method of measurement are specified.

(1) The use of the 40 db equal loudness contour is specified to reduce the effect of the greater variation in low-frequency components.

(2) The camera tripod legs and the sound level meter are insulated from the floor to reduce the amount of noise transmitted through the camera tripod and meter.

(3) All lens positions on the camera turret must be filled and film must be in the camera to simulate operating conditions.

With respect to the measurement positions, the 3-ft position was chosen because experience has shown that in the type of enclosure recommended above, it will be possible to obtain the required 6 db differential between camera noise level and room noise. Having determined the 3-foot position, the 12-ft position was decided upon as with the required differential in camera noise level of 6 db between the two positions, an error of 1 db or less is introduced by the reverberant sound.

Thus, the method specified is not providing absolute measurement of camera noise level, but does give comparative results of sufficient accuracy to be used for the intended purpose.

Work on Standards for Aeronautical Electrical Equipment

Standards for aeronautical electrical equipment are being prepared by the Standards Committee and the Air Transportation Committee of the American Institute of Electrical Engineers in cooperation with the Society of Automotive Engineers, the National Aircraft Standards Committee, the National Electrical Manufacturers Association, the Army Air Forces, and the Navy Bureau of Aeronautics.

Electrical standards and test codes covering aircraft control and protective devices to aid in the rating, testing, and application or evaluation of such devices for aircraft service is being undertaken by the Aircraft Electrical Control and Protective Devices Subcommittee. One of the most important problems being studied by this group is circuit breaker characteristics, and particularly their performance in adequately protecting cables.

The Aircraft Wire and Cable Subcommittee will prepare electrical standards and test codes covering the rating, testing, and application of aircraft wires and cables; and the Aircraft Electrical Rotating Machinery Subcommittee is preparing electrical standards, test codes, and definitions for aircraft electrical rotating machinery. Immediate attention is being given to the formulation of a test code for aircraft d-c machines.

A "Report on Proposed Standard Voltages for Aircraft Direct Current Equipment" has been adopted by the AIEE Air Transportation Committee for one year's trial use.

Copies may be obtained from the American Institute of Electrical Engineers, 33 West Thirty-ninth Street, New York 18, N. Y.

The New Zealand Standards Institute is operated and supported entirely by the New Zealand government. The government buildings at Wellington are shown here.

New Zealand Standards Activities at New High

THE New Zealand Standards Institute adopted 37 regular Standard Specifications and 45 War Emergency Standard Specifications in 1944, according to a report received recently by the American Standards Association, bringing the total regular standards to 421.

The Institute announces that the procedure has now been established for use of the certified trade mark, known as the Standard Mark, registered by the Institute last year. This Mark is intended to certify the quality of consumer goods as a protection to the public in the same way that the Hallmark on gold and silver goods has certified quality since the fourteenth century, the Institute announces. The Mark is now available to traders under a procedure by which licenses are issued by the Minister of Industries and Commerce to those whose goods are found to meet the requirements of New Zealand Standard Specifications. In the case of commodities for which standard specifications do not exist, they will be developed upon request with the cooperation of the groups concerned.

Developments in technical committee activities were reported by the Institute for the past year. Consideration of overseas specifications to determine suitability for adoption as New Zealand Standards was the chief activity of the Civil Engineering, Mechanical, Electrical, and Chemical Sectional Committees. In order to meet the urgent necessity for economizing in the use of tin during the war, the Mechanical Sectional Committee issued a standard specification specifying the composition of seven types of solder. The committee also adopted the British Standard Recommended Designs for Plug, Ring, and Gap Gauges with a supplementary design for gages previously proven successful in meeting the problems of New Zealand practice. The specification covers all the gages for preset dimensions which are generally used in precision engineering and stipulates the design and degree of accuracy of the gages.

The New Zealand Standard Mark

Building Standards

As in other countries, work on codes of practice and related specifications for building materials have been expanded in anticipation of a major postwar building program.

Research in other countries and the resultant conclusions have been studied and applied to work in New Zealand. It is evident, the report notes, that New Zealand standards are also being applied in building code practice abroad.

The preparation of relevant Building Standard Specifications will be correlated with the Institute's research program, through the appointment of the chairman of the Building Code Sectional Committee and the secretary of the Standards Institute to the Building Research Committee of the Council of Scientific and Industrial Research.

Three additional parts of the Standard Code of Building By-laws have been issued covering: Means of Egress, Part 7 (issued 1944); Residential Buildings, Part 8, (issued 1944); and Light Timber Construction, Part 9 (issued 1944).

Parts 8 and 9 have been supplemented by a comprehensive Standard Specification for Dwellinghouse Construction, providing requirements for the materials and methods used in house construction, to insure the most economical use of the natural resources in building and the maintenance of sound standards for construction, hygiene, and over-all conditions. A separate specification for the Installation of Radios is in preparation as a corollary to the Standard Specification for Dwellinghouse Construction.

Additional parts to the Standard Code of Building By-laws are in preparation. They are:

Steelwork
Masonry Buildings of Bearing Wall Construction
Monolithic Concrete Construction
Concrete Water Retaining Structures

A Building Materials Sectional Committee has been organized to handle the heavy volume of work entailed in preparing standard specifications for building materials for citation in the standard by-laws and in the Standard Specification for Dwellinghouse Construction.

Injuries and even fatalities caused by falls through asbestos-cement-sheet roofs have necessitated an addition to the Standard Specifications for Asbestos-Cement Roofing-Sheets which provides for supports to be placed under sheets as safeguards for workers. Standard specifications for concrete and earthenware roofing tiles, building boards, and for fixing roofing-tiles are under way.

Standards of test for accurately determining the fire-resistance ratings of building materials and methods of construction suitable for use by the Dominion laboratories are being studied.

The Emergency Standard Specification for Doors has been revised. The report states that the value of the building standardization program is evidenced in the estimates of competent authorities that the cost of standard doors is from 20 to 60 percent less than that of special doors ordered to specifications differing from trade standards and that the lower cost, averaging from 10 to 15 percent, substantially absorbs higher costs due to war conditions.

Commercial Standardization

The Specifications Coordination Committee which functions as a liaison group, correlating the Dominion supply requirements with the standard specifications in the countries of supply, has issued 16 Emergency Standard Specifications, bringing the total of Emergency Coordination Specifications to 49.

The Institute is preparing a New Zealand Standard Code of Cost Accounting Terminology which it is expected will help to eliminate the confusion arising from the use of terms which convey different meanings to different workers.

Domestic Commodity Standardization

Considerable progress has been made in the preparation of standard specifications for general household commodities, the Institute reports.

This program includes standards for clothing, footwear, furniture, and food. Three Emergency Standard Specifications have been completed for men's working garments, women's full-length circular knit hosiery, and leather dress gloves. The specifications for men's working garments defines the type of material from which they are to be manufactured and establishes uniform basic measurements for garment sizes. Similar basic factors are covered in the specifications for women's full-length circular knit hosiery and leather dress gloves.

Standard basic measurements in relation to the size designations of other garments are being developed in response to requests from women's and consumer organizations.

Fifteen Emergency Standard Specifications for footwear have already been completed. Preparation of a specification for infants' footwear below size seven is underway.

With the fullest cooperation and assistance of the footwear industry, work has progressed on the development of a specification for footwear lasts, the Institute announces.

At the request of the rehabilitation authorities, the Institute has undertaken the development of a standard specification for household furniture which will be the basis for loans to returned servicemen as part of the Government's rehabilitation program. The specification will establish minimum requirements for quality, utility, and suitability of furniture, including class and grade of lumber, upholstery and other materials, features of basic construction such as lumber dimensions, and methods of jointing, workmanship, and finish.

Follow Recommendations of United Nations Conference

In line with the recommendations of the United Nations Food Conference, the Institute is going forward with problems of vegetable and meat standards. During 1944, seven standard specifications were issued, for Government contract purchasing and for purchasing by other public authorities and institutions. It is hoped, the Institute announces, that standard grades can be correlated to the marketing of vegetables in such a way that a basis for their sale and purchase from the grower to the ultimate consumer can be provided.

The use of standard grades for fruit and vegetables to facilitate orderly distribution was strongly recommended by the United Nations Food Conference which met at Hot Springs, Virginia, in May and June, 1943. The Conference recommended among other things that—

> "The governments and authorities here represented take steps to ensure that producers and consumers are adequately protected against trade malpractices and against exploitation in the purchase and sale of food and other products of agricultural or marine origin and commend general and specific measures to prevent confusion as to quality and country of origin; and that the permanent organization above mentioned assist, if requested, governments and authorities to this end, and, if appropriate, formulate international codes of trade practices . . ."

Stanley Plan Operating On Postwar Basis

The Stanley Plan, reported originally in INDUSTRIAL STANDARDIZATION, May, 1942, has made its reappearance recently in the Middle West as a method of bringing prime contractor and subcontractor together for most efficient production during the reconversion period. The method was devised by James S. Stanley of Richmond, Va., to bring together, through a simple weekly listing of jobs to let, the prime contractor who needs help and those would-be subcontractors who have in their shops the particular machine-tool capacity to do the job.

The plan was tried during the early days of the War Production Board, but was later dropped. Now, Mr. Stanley has started it again in the Middle West as a private business.

The system is based on standard symbols for each type and size of metalworking machine needed on the job, and the production task is translated into a series of symbols which represent the sequence of machines required for the successive operations. Figures for the requisite tolerances are included with the symbols. Also included in the listing are numbers and letters which show the number of units to be made on the contract, the time-study estimate of hours per unit, and the number of weeks across which the subcontractor may spread delivery.

With this information, the subcontractor can calculate his costs, his machine time, and how well the job balances with the ideal machine capacity in his shop.

The first issue of the list was sent out March 16, and according to a report in *Business Week*, numerous inquiries were received by the listed prime contractors.

New Standard for Maps

Code of Recommended Practice for Standards of Accuracy of Maps, prepared by The Connecticut Technical Council, Inc, P.O. Box 904, New Haven 4, Conn. Approved by the State Board of Registration for Professional Engineers and Land Surveyors. Price 25¢.

The Code, prepared by a committee of registered engineers and land surveyors, classifies maps and plans which may become public land records, be used as court evidence, or represent data acquired, assembled, or calculated for a client by a land surveyor. Maps are grouped in eight classes according to the equipment and methods used in preparation and the purpose for which the map is required. Foreword and directions for notations, titles, legends, certification, etc., are included.

Motion picture reels and containers must operate under all service conditions to meet the requirements of the Armed Services. Here, 16-mm motion picture projection equipment is being set up to give entertainment to men in the front-lines in Italy.

Standard Film Reels—Foolproof Projection

By D. F. Lyman

Chairman, Subgroup on Reels and Containers of Subcommittee D on 16-Mm Projection, American War Committee on Photography and Cinematography, Z52

DURING the preparation of the American War Standard for a service model 16-mm sound projector, Z52.1-1944, A. G. Zimmerman, chairman of Subcommittee D of the War Committee on Photography and Cinematography appointed a small subgroup to consider and recommend standards for a 2000-foot reel for that projector. Included on this committee are members of the Armed Forces and representatives of the 16-mm industry.

As the work of this subcommittee progressed, its scope was increased, and as they were completed the proposals were, therefore, submitted for criticism to larger groups of service and industrial organizations than those originally represented on the committee. The final result is the American War Standard Specification for 16-Mm Motion Picture Projection Reels and Containers, Z52.33-1945, now ready for distribution to all who may be interested.

In considering certain specifications it is interesting to analyze the motives of the committee and to describe the whys and wherefores of its action, rather than to list the contents in detail. That is true here, for the standard itself gives no hint of the reasons for some of the specifications.

The main reason for the increase in the scope of the work was that a preliminary examination of previous standards for reels revealed the necessity for extensive revision. Furthermore, the committee found that many of the dimensions specified for the 2000-foot reel were also applicable to the whole line of reels commonly used on 16-mm projectors. For this reason, the new American War Standard Z52.33-1945 covers not only the 2000-foot reel but also reels and containers of the following capacities: 200-feet, 400-feet, 800-feet, 1200-feet, and 1600-feet.

Here, in the film reels and containers, is a product that is particularly suited to standardization. Sixteen-millimeter film is so well standardized that there is no reason why its vehicle cannot also be standardized. Moreover, it is essential that reels of different manufacture fit projectors of all types, so much so that if there were no standard, manufacturers would have to follow an unwritten one, or utter confusion would result.

In all these war standards, the needs of the Armed Forces come first. Fortunately, most of their requirements are for the best interests of the commercial trade also, and that is true in this case. From the standpoint of the Services, then, what constitutes a satisfactory reel?

First, the Services have their own ideas about materials and the finishes applied to their products, also the rigors they will have to withstand. This aspect is covered in the usual manner in this specification, as are questions of general

The American War Standard Specification for 16-Mm Motion picture Projection Reels and Containers, Z52.33-1945, is now being considered by the Joint Army-Navy Committee on Specifications for approval as a Joint Army-Navy (JAN) Specification. Copies can be obtained without charge from the American Standards Association.

Members of the subgroup of Subcommittee D on 16-Mm Projection, which was responsible for preparation of the standard, were:

CWO S. P. Balcomb, Jr., AAF Air Technical Service Command
F. L. Brethauer, Bell & Howell Company
Lt G. A. Chambers, Navy Department, Bureau of Aeronautics
D. F. Lyman, Eastman Kodak Company
(H. J. Hood, *Alternate*)
Lt Boyce Nemec, War Department, Army Pictorial Service
Frank Rogers, Jr., Ampro Corporation
Lt (jg) W. R. Soekl, Navy Department, Bureau of Ships

D. F. Lyman, Eastman Kodak Company, was chairman of this subgroup, and S. L. Chertok, American Standards Association, secretary.

workmanship, welding, and riveting.

As for the dimensions themselves —and they are grouped into one table under an explanatory drawing —the first question in which the Services are interested is whether the reel will fit the projector. If there is radial clearance for the reel, the primary consideration is the fit of the reel on the spindle. Therefore, the sizes of the round and square holes in the flanges lead the list. This round-square construction was made mandatory because the Services believed that it would give them some measure of fool-proof projection. It would make it more difficult for the projectionist to place on the supply spindle a roll of film that had not been rewound and thus produce the well-known upside down results. It was not necessary to change the dimensions given in the previous standard for the round and square holes because investigation showed that they were satisfactory for practically all the 16-mm projectors ever placed on the market.

Dimension Determined For Smooth Winding of Film

When it came to the width of the reel, particularly the distance between flanges, the Services of course wanted a dimension that would insure smooth winding of the film without interference between the film and the flanges. Thus, the limits of the width should be from slightly greater than film width to the greatest width permissible from the standpoint of smooth coiling. It has been found that if the width of the reel exceeds certain limits, the film wanders laterally so that the sides of the coil are rough. More serious, the diameter of the complete coil is excessively large so that it often exceeds the diameter of the reel, especially if the film is curled or buckled slightly. For the first time, this standard calls for different tolerances in different zones of the reel.

Greatest Variation at Periphery

It is recognized in this standard that the width at the periphery of the flange is subject to the greatest variation; therefore the tolerances are more generous, but they are still within the criterion mentioned above. Such wide limits are not necessary at the core; there the limits can be much closer without imposing too much of a handicap on the manufacturer. Then a third tolerance, for the dimension adjacent to the holes for the spindle, is slightly larger because the flanges may be bowed a trifle near the center. This last figure is important because it has a bearing on the performance of the devices that align the reel on the spindle and hold it there.

Previous standards and common usage had a great deal to do with the dimension for the outside diameter of the flanges. Past practice was important because projectors had been designed to accommodate certain diameters, and if these diameters should now be exceeded, the reels would interefere with the projectors optically or mechanically, or they could even interfere with each other.

When the sizes of the cores or hubs were considered, the committee agreed that they should be made as large as the outside diameter of the flanges would permit for the length of film in question. This is desirable because with the constant-torque type of take-up mechanism employed on many projectors, the tension on the film varies inversely with the radius of the coil; therefore it is too high at the core of the reel if the core is too small. Rather generous negative tolerances are given in some cases because it seemed impracticable to ask manufacturers to scrap tools for current reels when the ratio of outside diameter to core diameter was within reason. A ratio of 2 would be desirable, but in view of the limitations imposed by common usage on the outside diameter of the flange, in some cases the ratio is about 3. A footnote states that a later revision of this specification will omit the negative tolerance. In this way the industry is urged to change to the larger nominal dimensions, at least when it has to replace tools.

Other aspects of performance desired by the Services are included in the standards for lateral runout of the flanges and concentricity of the flange and the core. For the convenience of the projectionist, several paragraphs specify the frequency and location of footage marks, the size and number of the core slots to receive the end of the film, the accessibility of the slots, alternative methods of securing the end of the film, and the provision of finger holes in the core area of the large reels.

In these days of air transport, weight is an important consideration; a maximum is specified for each size. But light weight must not be attained at the expense of adequate strength; therefore, a test is provided to determine the amount that the flanges spread when they are pulled apart with certain forces. Another paragraph stipulates that the flanges shall return to their original positions—within certain limits —after they have been squeezed toward each other a given distance, in most cases until they touch each other.

Of importance to the Services is the standardization of the container for the reel. Once the outside diameter and the width of the reel are established, the size of the container can be set. Then the projectionist will not be placed in the predica-

ment of not being able to fit the projected film into a container because the container is too small.

Other aspects of the container included in the standard are: embossings for strength, areas for labels, nesting for stacking, strength, and rolled edges that enable the Service projectionist to open the container without the use of tools. Strength is covered in two paragraphs that specify the minimum thickness of the metal of which the can is made and a test of the resistance to damage when the loaded container is dropped. It is not expected that the container and reel will escape deformation in this test, but it is specified that the damage to the reel shall not be so great that it cannot be straightened with pliers so that the show can go on.

Inspection of both reel and container is described in the usual detail required by the Armed Forces, also the method of marking, packing, and shipping.

While any project of this type is bound to contain compromises, the subgroup believes that this specification will prove to be a step ahead in the general program of standardization of those things that particularly need standardization. To the members of the subgroup, who patiently contributed their time to a rather unromantic task, a suitable reward would be that these results will be found valuable in peace as well as in war.

Daniel Harrington

Lucien Eaton

ASA Mining Committee Elects Officers

Daniel Harrington, chief of the Health and Safety Service, Bureau of Mines, has been re-elected chairman of the Mining Standardization Correlating Committee of the American Standards Association, and Lucien Eaton, representing the American Mining Congress, has been re-elected vice-chairman. In addition, the Committee has elected as second vice-chairman, M. D. Cooper, divisional general superintendent, Hillman Coal & Coke Company, Pittsburgh, Pa., representing the Coal Mining Institute of America. Mr. Cooper has been a member of the Executive Committee since 1941 and a member of the MSCC since 1940. Mr. Harrington has served as chairman of the MSCC since 1943.

Members of the MSCC Executive Committee were also elected:

Benjamin F. Tillson, consulting engineer, Montclair, N. J. representing the American Institute of Mining and Metallurgical Engineers

William T. Davis, supervising engineer, Ocean Accident & Guarantee Corporation, New York, representing the National Conservation Bureau

E. A. Holbrook, dean, College of Engineering, University of Pittsburgh, Pittsburgh, Pa., member-at-large

Mr. Tillson and Mr. Davis, both new members of the Executive Committee, have served on the MSCC since 1938 and 1940, respectively.

Dean Holbrook has had a long history of work with the MSCC, having become a member in 1924, soon after it was organized.

ASA Services Offered to WPB

A F of L and CIO urge WPB to accept offer of standards for textile products

The Board of Directors of the American Standards Association has offered the services of the ASA to the War Production Board for development of standards to define minimum serviceability of consumer goods, particularly textiles. This action was taken by the Board on the recommendation of the Advisory Committee on Ultimate Consumer Goods, which found "that regulation of production of consumer goods without the use of minimum quality specifications results in waste not only of consumer purchasing power but also of labor, materials, and production facilities."

A telegram sent to J. A. Krug, chairman of the WPB, by the Board of Directors, following its meeting May 27, reads as follows:

"The Board of Directors of the American Standards Association offers the facilities of this Association to the War Production Board in working out minimum wartime standards of serviceability for use in setting floors under quality. Stop. This action taken upon recommendation of our committee on consumer goods. Stop. Representatives of consumers and of department, chain and mail order stores state that their facilities will permit the preparation of standards in draft form for selected items of low cost clothing within a week or ten days."

Representatives of consumers (including organized labor) and of rel tailers discussed the problem of lowered quality of consumer goods, particularly textiles, at the May 1 meeting of the ASA Advisory Committee on Ultimate Consumer Goods. They strongly expressed the view that a constructive piece of work could be done in meeting this problem if minimum standards were used in WPB allocation orders for many items of consumer goods. As a result, a letter to this effect was sent to Mr. Krug by Irwin D. Wolf, chairman of the ACUCG, and Dr. Dorothy Houghton, vice-chairman.

Both William Green, president of the AFL, and Philip Murray, president of the CIO, have written WPB urging that the ASA offer be accepted.

ASA to Cooperate On International Standards

PARTICIPATION of the American Standards Association in international work on five subjects, to be carried on through the United Nations Standards Coordinating Committee, was authorized by the ASA Standards Council at its meeting May 24. These projects are:

Methods of measuring radio noise interference
Standardization of grades of shellac and methods of testing shellac
Methods of expressing moisture content of wool knitting yarns
Definition of the term "rayon"
Unification of the methods of testing textiles used in different countries

The action taken by the Standards Council, and similar action on the part of other countries, will start an extensive interchange of material and probably conferences that will undoubtedly result in international agreements, according to Herbert J. Wollner, in charge of the New York office of the United Nations Standards Coordinating Committee. International methods of measuring radio noise, for example, will probably not be actively participated in by American industry until the completion of research now being carried on in this country. But the American Standards Association has agreed to an immediate interchange of technical information on the subject.

To Appoint Committee on Shellac

To start the work on shellac, an ASA committee will be appointed under the supervision of the American Society for Testing Materials to develop the American points of view to be presented for international consideration. Standards already in use, such as those developed by the United States Shellac Importers Association and the American Bleached Shellac Manufacturers Association will be studied.

International agreement on the percentage of moisture regain to be allowed in buying and selling wool yarns, had already been reported on favorably by a conference of American wool interests held May 9th in New York under the auspices of the ASA. It had also been recommended by the Advisory Committee on Ultimate Consumer Goods. In taking action on that project the American Standards Association followed the recommendations of industry.

Differ on "Rayon"

International standardization of the term "rayon" as applied to textiles was suggested by the New York Board of Trade and recommended by the Advisory Committee on Ultimate Consumer Goods. In the United States, the term "rayon" is limited to textile fiber or yarn produced chemically from cellulose or with a cellulose base. In England the term is used to cover a wide range of synthetics including nylon and glass.

The suggestion for international work on textile testing methods was suggested to ASA by the National Bureau of Standards on the basis of its Commercial Standard for Testing and Reporting Textiles. A committee has been appointed to consider whether other standards besides the Commercial Standard should be submitted as part of the American proposal.

Projects Postponed

Several other international projects were discussed by the ASA Standards Council and referred back to the United Nations Standards Coordinating Committee with the suggestion that no action be taken at present. A project for the standardization of flat-bottom rails for reconstruction of railroads in devastated areas of Europe, proposed by the Inter-Allied Inland Transport Committee, has been found to be unnecessary at present because neither French nor Belgian steel industries were as badly damaged as had been feared and it is believed that they will be able to supply all the rails needed for reconstruction purposes. International standardization of methods and practices of lighting airfields, suggested by the British Standards Institution, is already being carried out by arrangement between the Army, Navy, and Civil Aeronautics Authority of this country and the governments of other countries. A project for the unification of national standards for such building materials and equipment as plywood, insulation and wall boards, steel, sanitary equipment, prefabricated hutting, etc., was also postponed. A project for international coordination of national standards for threads of outlet valves of compressed gas cylinders and for color markings for the identification of the contents of compressed gas cylinders, requested by the British Standards Institution, is rendered unnecessary by an American-British-Canadian project on the subject.

Additional Work Requested

The United Nations Standards Coordinating Committee has also received requests for international work on the following:

(*a*) Standardization of terms used in the plastic industry, requested by the British Standards Institution

(*b*) Unification of national standards on sheet and wire metal gages, requested by the Standards Association of Australia

(*c*) Permissible filling ratios and pressures for cylinders carrying various commerical and industrial gases, requested by the Standards Association of Australia

(*d*) International standardization of high transmission voltages suggested by the French Electrotechnical Committee of the International Electrotechnical Commission

(*e*) Unification of national terms and definitions for heat treatment of steel, suggested by the British Standards Institution

(*f*) Standardization of food containers used in international shipments of food and food products, also suggested by the British Standards Institution

(*g*) An international dictionary of terms used in trade of commodities, facilities, services, etc, suggested by the New York office of the United Nations Standards Coordinating Committee as a result of conferences with government officials in Washington and Canada

All of these suggestions were considered by the Standards Council, but since they are still in the planning stage no action was taken. In some cases they were referred to ASA member organizations for further study before any decision is made as to whether ASA should participate. In some cases they were referred to committees of the American Standards Association for investigation and report.

The United Nations Standards Coordinating Committee has its American headquarters in Room 5946, Grand Central Terminal Building, New York. European headquarters is at Buckingham House, London, with C. LeMaistre, formerly director of the British Standards Institution, in charge.

Standards in the Canning Industry

By Happer Payne

Director of Labeling, National Canners Association

FOR more than thirty years the canning industry has worked with the problem of standards for its products. Consistently, the major objective has been (1) clearer understandings with wholesale customers, and (2) improved labels for consumers.

After several years of "talk," formal action to develop standards was initiated, in 1914, by the appointment of individual commodity committees at the convention of the National Canners Association. The first attempts at standards were efforts to establish precise definitions for the individual factors which the trade often summarizes in its convenience idioms, "Fancy," "Choice" or "Extra Standard," and "Standard." It was anticipated that such standards would not only minimize trade misunderstandings but that, when standardized, the trade terms or their letter synonyms, A, B, C, could be used with uniformity on labels with benefit to the consumer.

Considerable progress was made during the next period of years, much of it in cooperation with the U. S. Department of Agriculture. There was a gradual but marked improvement in commercial understandings. In 1932, Congress appropriated funds to the Department of Agriculture for the establishment of grades to be used primarily as a general index of values for negotiating bank loans.

Grades Represent Summation Of Several Factors

Experience in formulating grade standards had made it apparent to most of the industry that the "trade's" use of its idioms or of the letter symbols, A, B, and C, on the one hand, and the use of either the terms or the symbols for consumer understanding on the other hand were two separate and distinct things. Grades are a summation of several factors, the nature of each of which the trade knows intimately for each different product. The consumer cannot possibly retain such multiplicity of detail in mind. Grade symbols are too generalized to serve the proper consumer demand for specific facts which are necessary for an intelligent appraisal of the worth to each shopper of differences in price. Most important, perhaps, there is no possible way of constructing a system of composite grades by which any one symbol, except perhaps A, will always represent the same characteristics. "Very young" peas, for instance, may be labeled A, B, or C, depending on the nature of minor factors. Grade C peas may be either "very young," "young," or "nearly mature." It did not seem good labeling then, any more than it does now, to use a system of symbolic labeling in which the symbols may have variable meanings.

Canners Sponsored Law For Quality Standards

In 1930 the canners sponsored, and Congress passed, the McNary-Mapes Amendment to the Pure Food Law—an Amendment which authorized the Food and Drug Administration to promulgate basic standards of quality for canned foods. The industry, and specifically the Association's laboratory, has made numerous studies, the reports of which have been supplied to the Administration for its consideration in establishing these standards.

In 1934 a new formula for consumer labeling was proposed to the Association by its Labeling Committee and was adopted by the Association, to be undertaken voluntarily by the industry. The original report referred to this program as "descriptive labeling." It would have been more definitive to have named it *standardized* descriptive labeling. It is, in practice, the interpretation to the consumer, in terms she can understand, of the individual factors of grade which symbols themselves do not disclose.

Five essential principles were included in the Labeling Committee's first report. There has been no fundamental change in the five principles. Digested and briefed they were and are:

1. *Standards.* For each label term there shall be an objective definition or measurement standard which will confine each label statement to its own limited meaning.

2. *Completeness.* Every fact important to the consumer including those often loosely called "quality" factors shall be stated, provided objective measurements or standards can be established.

3. *Commonly understood words.* Common, ordinary, but precise-as-possible words or terse phrases shall be selected which will accurately interpret each fact to the largest possible number of consumers.

4. *Separate Statement.* Each fact shall be separately stated.

5. *Conspicuousness.* Each label term shall be prominently printed and displayed on the label so that it can be quickly seen and easily read.

The goal for the perfected label is to report on *all* factors, including "quality" factors, which are consumer-important and which can be objectively measured. At the outset, the Association delegated to its Labeling Committee the authority to make final decision on labeling terms, establish standards for them, and encourage their use on labels. This responsibility set the Labeling Committee a definite task in the matter of standards. Fortunately, the Association had and still has an adequately equipped and competently staffed laboratory organization respected in scientific circles.

Canners' Formula Same as FDA's

The canners' formula for voluntary standardized descriptive labeling is identical with that of the Food and Drug Administration's formula for mandatory label statements set up after the enactment of the new Food, Drug, and Cosmetic Act in 1938. One example of Food and Drug regulations for labeling will not only illustrate the principle of standardized descriptive labeling, but will also illustrate one type of essential standards. Fruits are

packed in sirup varying in degrees of sweetness to meet differing public tastes. Food and Drug Administration regulations require the major fruits to be labeled with statements, "Extra Heavy Sirup," "Heavy Sirup," "Light Sirup," etc, to indicate the sweetness of the sirup. For each term the regulations provide an objective standard in terms of "Brix" degrees, measured by a specially calibrated hydrometer which indicates the percent of solids in the sirup, 90 percent of which are sugar solids. The use of each of these mandatory labeling terms is restricted by its own limiting percent of sugar solids. Uniformity of labeling is achieved and enforcement need not depend on the uncertainties of subjective, though expert, opinion in cases of alleged misbranding brought to court.

Varied Procedures Necessary in Establishing Standards

The canners' program carries beyond the legally required label statements with the voluntary addition of uniformly used terms similarly limited by equally precise standards. In establishing standards for other chararteristics, varied procedures are often necessary, one of which can be illustrated by a current project. No completely satisfactory objective measurement has ever been found for ripeness of the major fruits, but changes in color are apparent to the naked eye as ripening progresses.

The Association laboratory now has developed a method which offers encouragement that the color components of canned fruits and vegetables can be measured. If preliminary tests now under way show promise, carefully controlled experimental packs of peaches and apricots, for instance, will be made this season covering a full range of maturity of all commercial varieties from all commercial growing and canning areas. The color components for each sample will be recorded by the laboratory. Identical samples will be examined and classified by a competent group of experts on the basis of sensory tests. If the measurement method proves sound and if there is correlation between the measured color components and the classifications of the experts, it will be possible to establish an objective standard for optimum ripeness. Label terms will be selected which will describe the optimum stage as well as other stages. If present hopes are realized, a puzzling problem will be solved. The possibilities are worth full exploration.

Labeling for the range of maturity or the relative succulency of peas, corn, green beans, and wax beans was provided for by a similar procedure. In the case of peas and whole kernel corn, the standard is based on the chemical determination of the percent of starch present. For these vegetables, three classifications of maturity have been made, respectively described on the label as "very young," "young," and "nearly mature."

In this limited space only a few of the standards already established can even be listed: Sizes for a long list of fruits and vegetables; texture of green asparagus; character of culturally bleached asparagus spears; color for beets, tomatoes; uniformity of cut for sliced and diced carrots and beets; consistency of cream style corn and pumpkin, etc. All of these standards, as well as the present dictionary of label terms, are published in the Association's Labeling Manual.

Labeling under such a system is, of course, dependent on controls which enable the average cannery to produce canned fruits and vegetables similar in their characteristics.

Year's Projects Include Study of Corn

One of the current year's projects is a study of controls for the viscosity of cream style corn. Another is extensive field experiment with a device created by the laboratory to measure the succulency of raw corn with precision. Another is an attempt to correlate the chemical analysis test for the succulency of canned peas with a simpler brine flotation test.

The dictionary of labeling terms is at present incomplete. A few products are fully covered and many products are partially covered. Some problems have so far defied solution; for instance, no reliable objective measurement for the range of maturity in cream style corn has been found. The important thing is that steadfast progress is being made, not only in creating important-to-the-consumer classifications and in selecting descriptive terms and establishing standards, but also in the number of canners and distributors who are applying the label terms to their products.

More Colors Added In British Standard Color Card

A revised edition of the British Standard color card, Standard Schedule of Colors for Ready-Mixed Paints, BS 381C-1944, issued recently, extends the range of standard paint colors for general purposes to 27 colors with the addition of black and white. The range selected was based on proposals of the Standards Committee of the British Ministry of Works.

Colors are grouped for ready reference under the titles: Building decoration (27 colors); identification (eight colors); vehicles (six).

Information is given concerning the reflective properties of colors to enable architects and others to evaluate variations in their light requirements.

Copies may be obtained from the Publications Department, British Standards Institution, 28, Victoria St., London, S.W. 1, price 1s (40 cents) each.

Argentine Standards Association Celebrates Tenth Anniversary

The Argentine standardizing body, Instituto Argentino de Racionalización de Materiales (IRAM) celebrated its tenth anniversary in May with a program of special events and the issuance of anniversary publications. IRAM recently moved into impressive new offices at Calle Chile 1184-1192 in Buenos Aires.

IRAM has developed 155 standards during the past decade. In addition, 183 projects for standards are being considered currently or are scheduled for consideration in the future. Some of the important subjects under consideration are iron and steel products, pipe and fittings, electrical machinery and materials, paints and varnishes, methods of test, and fundamental standards.

Virtually every U. S. product exported to Argentina is affected to some degree by either the fundamental or specific standards that are being developed in that country.

Another Argentine engineering organization which has recently celebrated an important anniversary is the Centro Argentino de Ingenieros. This body was founded 50 years ago and is representative of the entire Argentine engineering profession.

ASA Consumer Goods Committee Plans Enlarged Program

Irwin D. Wolf
Re-elected ACUCG Chairman

HOW the work of the American Standards Association on consumer goods can be reorganized in order to speed the development of approved American Standards was one of the main topics of discussion at the annual meeting of the Advisory Committee on Ultimate Consumer Goods at New York, May 1. The committee also re-elected officers, took action toward international agreement on consumer goods, and voted to recommend that ASA offer its services to the War Production Board for development of standards to be used in allocating materials for low-cost textile products.

The discussions on reorganization followed a report by Dr. R. L. Jones, chairman of the Planning Committee of the ASA Standards Council. This committee has been meeting with the Executive Committee of the ACUCG in connection with the work being done by the Planning Committee on a postwar program for the American Standards Association. This contemplates the organization of a general Consumers Correlating Committee with correlating committees in specific consumer fields to be organized as the work develops. Producers' standards, which now constitute most of the work of the ASA, were undertaken by the American Standards Association after many standards had already been completed in the industries concerned, it was brought out during discussion of the problem. In the consumer goods field, however, the Advisory Committee on Ultimate Consumer Goods is starting from "scratch" with no backlog of standards on which to base its program. For this reason, in many cases, although distributors and consumers have reached agreement on consumer goods standards, the fact that all groups concerned have not agreed has prevented the standards from being completed and approved as American Standards. As a result, all the work done on these standards has been wasted, the committee declared. If such standards were to be issued as "proposed" standards, the work done by the committees would be available for use by those interested, it was suggested. The committee voted to accept Dr. Jones' report with the understanding that further discussions would be held between the Planning Committee and the Executive Committee of the ACUCG on methods of speeding the consumer goods program.

An analysis of the work under the Advisory Committee on Ultimate Consumer Goods was prepared for use in these discussions and copies are available without charge from the ASA.

A Commercial Standard on Testing and Reporting Textiles, a definition of rayon, and a project on moisture regain in woolen knitting yarns were considered by the ACUCG for possible recommendation to the United Nations Standards Coordinating Committee as a means of obtaining international agreement. (See page 128.)

Standards for Low-Cost Garments

The ACUCG went on record urging the use of standards as the basis for allocation of materials by the War Production Board. Representatives of both distributor and consumer groups were strongly of the opinion that allocation of materials to low-cost end use, without the use of standards to define the minimum wearability of the garments for which the material is used, results in a serious waste of already scarce material. The ACUCG therefore adopted a resolution requesting the American Standards Association to offer the services of the ACUCG to the War Production Board for the development of minimum standards. (For action taken by ASA, see page 127.)

Wolf and Houghton Re-elected

Officers re-elected at the meeting were:

Irwin D. Wolf, National Retail Dry Goods Association, *Chairman*

Dr. Dorothy Houghton, American Home Economics Association, *Vice-Chairman*

Mr. Wolf, who has served as chairman of the committee since 1941, is vice-president of the Kaufmann Department Stores, Inc, Pittsburgh. Dr. Houghton, vice-chairman since 1944, is a professor of home economics at Teachers College, Columbia University, New York.

Joseph A. Gladstone, Trade Practice Committee, Sears, Roebuck & Company, representing the Mail Order Association of America, and Miss Margaret Scattergood of the American Federation of Labor, Washington, were elected members of the Executive Committee. The chairman was authorized to appoint two or three additional members of the Executive Committee.

ASA Correlating Committees Coordinate Work

Correlating Committees of the American Standards Association, which coordinate ASA work in specific industries, are as follows:

Building Code Correlating Committee
Electrical Standards Committee
Highway Traffic Standards Committee
Mechanical Standards Committee
Mining Standardization Correlating Committee
Safety Code Correlating Committee

Changes in procedure to give these committees more responsibility and thus speed the ASA work on standards are now being considered.

Inspected Foods Service Studies What Consumers Want on Labels

Standards of the National Canners Association, the Grocery Manufacturers Association, and the U.S. Department of Agriculture used by Service in its New Consumer Information Label

By Polly Gade

Director, U. S. Inspected Foods Educational Service

THE U. S. Inspected Foods Educational Service, whose members are all canners approved by the U. S. Department of Agriculture and therefore pack under continuous governmental plant inspection, has now had three years of working experience with the voluntary grade labeling of canned fruits and vegetables for the consumer. The Service (trade association of inspected canners, not a part of any government agency) believes as a result of its public relations that the consumer herself finds a combination of grade, descriptive, and informative labeling most helpful in buying canned goods and that additional information as to use and preparation is also desirable.

Since all the members of the group pack under continuous inspection, and grade on the basis of the U. S. Standards of the Department of Agriculture, they are permitted to label their products with the prefix "U. S." before the grade,—U. S. Grade A or B or C, as the case may be. This type of grade labeling has been voluntarily subscribed to by the canner members of the Educational Service because in their opinion the label with the certifying "U.S." grade quickly and conclusively identifies to the consuming purchaser the otherwise indiscernible quality of the food inside the container. It permits—and at no extra cost to the consumer—the right selection for the right use, and is a plus feature to descriptive and informative labeling.

Voluntary U.S. Grade Labeling Started in 1939

Voluntary U. S. grade labeling by canners started as a government experiment in 1939 with one plant and is now subscribed to by 52 companies operating 68 plants. Approval of requests for the service by other canning companies, besides requiring that the company qualify for the Government Service on the basis of plant facilities, operation, and sanitation, are more or less dependent upon the availability of trained inspectors, some of whom are now beginning to return from the Armed Forces.

Testing cans of peaches to determine the drained weight

In order to verify consumer preference in labeling, the Educational Service has now begun a nationwide study of the opinion of 3,000 consumers. Each consumer has been sent a packet containing 17 labels believed representative of the types used by member canners. All of these carry, besides the mandatory requirements of the Food and Drug Administration (weight, density of sirup, etc.), the individual brand name of the packer and the certified U.S. Grade. Some contain, in addition, certain descriptions as to number of servings and cups, size of product, style of pack, variety, etc. Others give information as to production of the product, recipes, and serving hints. Included also are brands using a new type consumer information panel designed by the U.S. Inspected Foods Educational Service as a modernization and improvement of its earlier recommendation.

Consumers who receive the packet of labels are being asked to return the one they consider most helpful in point-of-sale purchasing. Comments on the reverse side are welcomed by the Educational Service. By this direct comparison and selection it is hoped that member canners of U.S. Inspected Foods Educational Service may determine not only what type of information the consumer desires in voluntary labeling, but also how interested she is in any form of labeling over and above that already required by the Food and Drug Administration law. Returns will be tabulated this fall. Further development and redesigning will be based on the analysis of this nationwide consumer study.

New Labeling Panel Announced

The format of the new Consumer Information Panel of the USIFES is a large inspection shield, in blue for Grade A, red for B, and green for C. In it is contained, besides the brand name, the certified *U.S. Grade* and a definition of that grade according to the U.S. Department of Agriculture's U.S. Standards, a *Description* of the contents of the can in terms as recommended by the National Canners Association in their standards, and *Information* concerning the recipe uses and methods of preparation in order to best retain the nutritional value of the particular grade. In addition are statements showing that the canned fruit or vegetable was produced under the continuous plant inspection of the

U.S. Department of Agriculture, the name and address of the producing company, and that the company is a member of the U.S. Inspected Foods Educational Service.

The new Shielded Consumer Information Panel, which the Educational Service has copyrighted and is making available to its members, has been designed with the idea of presenting in the most usable form possible all types of information, any or all of which a consumer may want to know for her particular selection.

Grade—

The U.S. grade is a statement of comprehensible ranking quality as determined by point-scoring the important characteristics, on a basis of the established U.S. Standards of the Department of Agriculture. Grades are determined by such factors as color and maturity, which are qualities inherent in the raw material; and uniformity of size and absence of defects, which represent the workmanship of the processor. This composite symbol or grade is arrived at in much the same manner as school grades or the point system which qualifies for army discharge.

To amplify—clearness of liquor, color, absence of defects, and tenderness decide the vegetable grade. Character, color, uniformity of size and symmetry, and absence of defects are factors in the final grade of fruits.

70 U.S. Standards For Fruits, Vegetables

More than 70 U.S. Standards for processed fruits and vegetables have been published by the Department of Agriculture, paralleling the unwritten commercial grades used by the trade. Where applicable, these standards (formerly known as AMS or AMA grades) are included in the Federal Specifications for all government purchases such as those for the Armed Forces and other wartime needs. Last year such sales amounted to more than half of the total pack of canned fruits and vegetables. This 50 to 60 percent figure does not include the great quantities also graded on the basis of these U.S. Standards for large chain stores, cooperatives, wholesalers, and those canners packing under U.S. Continuous Inspection. Since all commercial trading is freely enacted on the basis of ranking grades, it is the contention of the USIFES that the consumer, too, should have the same opportunity. These canners supply grade labeling voluntarily. The supply will increase only on consumer demand.

Any canner or distributor may grade his canned fruits and vegetables A, B, C, or Fancy; Choice —Extra Standard; or Standard, but in doing so must follow these Department of Agriculture Grade Standards if the product is shipped between states. But only the product with the "U.S." identification before the grade (graded by U.S. Continuous Plant Inspection of the entire pack) has Government certification that each can of that pack meets the requirements of the U.S. Standard for that particular grade, as well as the assurance that the packing has been done under sanitary conditions. And this certification applies to the product where sold through intrastate as well as by interstate commerce. The latter, only, is regulated by the Federal Food and Drug Administration, although some states have adopted their own intrastate regulations as to sanitation. Since such U.S. continuous grading cannot be available to all canning plants, especially at this time, it needs must follow that the production-practical U.S. Inspected Foods Educational Service is definitely opposed to mandatory grade labeling. It contends that a voluntary system of Federal continuous grading is the best form of control for producer, government, and consumer.

Description—

Wise consumer purchasing depends on adequate container information at the point of sale. Hence it is not a question of which type of labeling is best but rather an integration of the most desirable features of each, in the opinion of the USIFES. So besides *Grade* and *Information* on the Shielded Consumer Panel is a section for *Description*. The U.S. grade designates ranking quality. Descriptive terms specify each characteristic (non-ranking) quality of the canned food—the essential quantity specifications as to the number of cups, approximate servings, size of container, and the number of pieces where applicable —as well as production information as to the style of pack, seasonings used, ingredients added, variety, and sometimes minimum drained weight. For this section, the U.S. Inspected Foods Educational Service refers members to the standards for descriptive terminology on which the National Canners' Association, and

(BLANK) BRAND U. S. GRADE B EXTRA STANDARD TOMATOES
Size No. 2½ 1 lb. 12 oz.
3½ cups 4-6 servings
Minimum drained weight 58%
Grading score 75-90 points
tomatoes are prepared from ripe tomatoes of fairly good red color; packed in whole or in part of large pieces; with normal tomato flavor.
USE these tomatoes for casseroles, scalloped, or in combination with meat, fish, fowl, seafood, eggs, scrambled and omelets, and with other vegetables; pies, savories, or stewed. The remaining juice may be used in aspic, beverages, flavoring in sauces, sherbets, and molded salads. U. S. Grades A and C while practically the same nutritionally, have different recipe uses.
PREPARATION: Retain Vitamin C content by not over-cooking; and by storing unused portions, covered, in the refrigerator.
Packed Under
Continuous Inspection of U.S. Dept. of Agriculture by
MEMBER OF U. S. INSPECTED FOODS EDUCATIONAL SERVICE
Copyright 1945 by U. S. Inspected Foods Educational Service
STECHER TRAUNG ROCH.N.Y.D

more recently the Grocery Manufacturers of America, have attempted and are accomplishing outstanding developments.

In the section on *Description* in the Shielded Consumer Information Panel, the Educational Service further recommends stating the minimum score per grade. The grade for tomatoes, for example, cannot be less than the minimum of 90 points for A, 75 for B, and 60 for C—but it may well be more. This descriptive-grade label information may give the range of points in the grade to which the particular product belongs but it cannot, obviously, go so far as to give the exact score for that particular can. There is, however, every reason to believe that products can and are being packed well above minimum standards by U.S.-inspected canners of fruits and vegetables.

Labeling by three ranking grades above sub-standard instead of by only the mandatory line of demarcation between sub-standard and standard; plus the normal descriptive differences of variety, localities in which the products are grown, and production formula variations; to say nothing of the known diversity in freight rates by distances, is practical evidence of the ridiculous impossibility of any attempt at a standardized price for such U.S. graded brands of canned fruits and vegetables. Instead it is a free, inviting challenge to competitive enterprise.

Information—

The third section of the Educational Service's new Shielded Panel is headed *Information.* There is much confusion over the meaning of the term "Information" as applied to labeling. The definition "to acquaint with facts" implies that any label which tells anything at all is informative. Hence a descriptive or a grade label or a combination of the two could be an informative label. One connotation of the word, however, is "to tell all." If it does have such significance, then a label to be Informative would have to show description, instruction—for use, and the grade if grade standards have been established. There are, however, many manufactured products which at this time cannot be point scored for a composite grade but which can otherwise be labeled informatively as to construction, description or specifications, use and care, production data perhaps, or other qualifying statements bearing on the selection for certain needs. In an effort to clarify the many denotations of Informative labeling the USIFES after three years of study has separated *Information* as a third and distinctive type—to mean instruction to provide best results in use and care of any product, over and above grade or description or both. An adequate label then for canned fruits and vegetables for which standards have been published "to tell all" should include Grade, Description, and Information.

One of the important principles on which the Educational Service operates is that an understandable alphabetical grade on a label permits a wise selection for a specific recipe use. On this premise, the section labeled "Information" contains a subsection "Use." In the case of tomatoes, the following information selected for each grade appears under the "Use" heading:

U.S. Grade A—Fancy tomatoes, packed whole or almost whole, are best used for individual servings as baked, broiled, or stuffed for a salad. The remaining juice may be used in aspic, beverages, and cocktails; in bread and cakes; as flavoring in soups, gravies, or sauces, for poached eggs; or in sherbets and ices.

U.S. Grade B—Extra Standard tomatoes, packed in large or almost whole pieces are best used in casseroles, scalloped, or in combination with meat, fish, poultry, seafood, eggs, or other vegetables; in pies, savories, or stew. The remaining juice may be used in aspic, beverages, sherbets, molded salads, and as a flavoring in sauces.

U.S. Grade C—Standard tomatoes, packed in whole or in part of small pieces with added strained residual tomato material from preparation for canning, are best used in au gratin casserole, or scalloped dishes; for flavoring or tenderizing meats; with fish, poultry, eggs, beans, rice, spaghetti, macaroni, chili con carne, tamales, pies; with other vegetables in timbales; or in soups—creamed and vegetable.

After these recommended uses for each grade, the Educational Service recommends (as, for example, on the U.S. Grade A label) the statement *"U.S. Grades B and C, while practically the same nutritionally, have different recipe uses."*

The consumer who buys U.S. grade labeled canned goods therefore soon learns to purchase by grade for particular recipe use. Generally speaking, grade A is "excellent" for special occasions, B is "good" for everyday, C is "fair" for thrift.

A second subheading under *Information* on the Shielded Panel is "Preparation." This instructs for best nutritional results in the use and care of the food, such as "Retain vitamin C content by not overcooking and by storing unused portions in the refrigerator" or "This has been thoroughly cooked and only requires heating. The flavor will be improved if the liquid containing valuable soluble vitamins is first concentrated, by boiling down before adding the vegetable. This liquid may also be used in soups and sauces. Unused portions may be stored in the refrigerator in the original container."

Panel Already in Use

So enthusiastically was the new Shielded Consumer Information Panel received on its presentation to the Educational Service's Board of Directors at their annual meeting in New York in May that its inclusion on most of the individual brand labels of member canners is anticipated. Even before its general presentation to the Association, which was postponed by the cancellation of the February meeting of Food Processor's Conference in Chicago, those who saw it have already reproduced the Shielded Panel on their own labels. Already finished and in use are those of the members of the group's Labeling Committee. Members of this Committee who were responsible for developing the Educational Service's labeling idea and who have already produced it for their own brands on all their products are:

F. Webster Browne, Sales Promotion and Advertising, H. C. Baxter & Bro. Brunswick, Me. (four plants)

Dwight Paulhamus, Sales Manager Tri-Valley Packing Association, San Francisco, Calif (two plants)

Dave Winebrenner, D. E. Winebrenner Company, Hanover, Pa. (one plant)

In addition, the East Jordan Canning Company of East Jordan, Michigan, is in the process of production on the new label. Other members such as the Case-Swayne Company of Merced, California, and the Owatonna Canning Company, Owatonna, Minnesota, have made formal requests for the licensing approval required for use of the copyrighted format and data of the new Shielded Consumer Information Panel as supplied by the U.S. Inspected Foods Educational Service. Whether or not such labeling information is adequate to meet consumer preference will be determined for the group by the results of the labeling study now being conducted by the Educational Service.

New Standards in ASA Library

For the information of ASA Members, the American Standards Association gives here a selected list of standards received by the ASA Library last month. The list below includes only those standards which the ASA believes are of greatest interest to Members.

These standards may be consulted by Members at the ASA Library, or copies may be obtained from the organization issuing the standard. The address of the organization is included for your convenience in ordering.

Associations and Technical Societies

American Society for Testing Materials (260 South Broad Street, Philadelphia 2, Pa.)

As a service to Company Members, the ASA maintains a sale file of all ASTM standards. They can be purchased from the ASA Sales Department at 25 cents each except where otherwise noted.

Standard Method of Test for:

Mar Resistance of Plastics, D673-44

Standard Specifications for:

ASTM Thermometers (with Emergency Alternate Provisions, EA-E1) E1-44

Emergency Specifications for:

Communication and Signal Pin-Type Lime-Glass Insulator, ES-41

Emergency Method of Test for:

Benzene, Toluene, and Higher-Boiling Aromatics in Aviation Gasoline ES-46

Oleofins, Aromatics, Paraffins, and Naphthenes in Aviation Gasoline (Without Distillation into Fractions) ES-45a

Sulfated Residue from Lubricating Oils (Air-Ignition Method) ES-43

Tentative Specifications for:

Alloy-Steel Bolting Materials for High-Temperature Service from 750 to 1100 F, Metal Temperatures, A193-44T

Alloy-Steel Castings Suitable for Fusion Welding for Service at Temperatures from 750 to 1100 F (with Emergency Alternate Provisions EA-A217), A217-44T

Aluminum Bronze
Rods, Bars, and Shapes B150-44T
Sand Castings (with Emergency Alternate Provisions EA-B148a), B148-44T
Sheet and Strip, B169-44T

Brass
Sheet and Strip, B36-44T
Wire, B134-44T

Bronze Castings for Turntables and Movable Bridges and for Bearing and Expansion Plates of Fixed Bridges, B22-44T

Carbon-Steel Castings Suitable for Fusion Welding for Service at Temperatures up to 850 F (with Emergency Alternate Provisions EA-A216a), A216-44T

Cartridge Brass
Cartridge Case Cups, B129-44T
Sheet, Strip, Plate, Bar, and Disks, B19-44T

Cellulose Acetate
Butyrate Molding Compounds, D707-44T
Molding Compounds, D706-44T
Plastic Sheets, D786-44T

Copper-Base
Alloy Forging Rods, Bars, and Shapes, B124-44T
Alloys in Ingot Form for Sand Castings, B30-44T

Copper-Nickel-Zinc Alloy Rod, Bar, and Wire, B151-44T

Copper Rods, Bars, and Shapes, B133-44T

Copper Sheet, Strip, and Plate, B152-44T

Ethyl Cellulose Molding Compounds, D787-44T

Gilding Metal
Bullet Jacket Cups, B131-44T
Strip, B130-44T

High-Leaded Tin-Bronze Sand Castings (with Emergency Alternate Provisions B144-42T), B144-44T

High-Strength Yellow Brass and High-Strength Leaded Yellow Brass Sand Castings, B147-44T

Heat-Treated Carbon-Steel Bolting Material, A261-44T

Leaded Brass Sheet and Strip, B121-44T

Lead-Coated and Lead-Alloy-Coated Soft Copper Wire for Electrical Purposes, B189-44T

Leaded High-Strength Yellow Brass (Manganese Bronze) Sand Castings, B132-44T

Leaded Nickel-Brass (Leaded Nickel-Silver) and Leaded Nickel-Bronze (Leaded Nickel-Silver) Sand Castings, B149-44T

Leaded Red Brass and Leaded Semi Red Brass Sand Castings (with Emergency Alternate Provisions, EA-B 145a) B145-44T

Leaded Yellow Brass Sand Castings for General Purposes (with Emergency Alternate Provisions, Ea-B 146a) B146-44T

Methacrylate Molding Compounds, D788-44T

Naval Brass Rods, Bars, and Shapes, B21-44T

Nonrigid Ethyl Cellulose Plastics, D743-44T

Nonrigid Vinyl Butyral Plastics, D745-44T

Nonrigid Vinyl Chloride-Acetate Resin Plastics, D742-44T

Nonrigid Vinyl Chloride Plastics, D744-44T

Nylon Injection Molding Compound, D789-44T

Oxygen-Free Electrolytic Copper Wire Bars, Billets, and Cakes, B170-44T

Phosphor Bronze
Rods, Bars, and Shapes, B139-44T
Wire, B159-44T

Seamless Alloy-Steel Pipe for Service at Temperatures from 750 to 1100 F, A158-44T

Seamless Carbon-Molybdenum Alloy-Steel Pipe for Service at Temperatures from 750 to 1000 F (with Emergency Alternate Provision EA-A206), A206-44T

Tin-Bronze and Leaded Tin-Bronze Sand Castings (with Emergency Provisions EA-B143a), B143-44T

Vinyl Chloride-Acetate Resin
Molding Compounds, D728-44T
Plastic Sheets, D708-44T

Tentative Method of Test for:

Acetyl and Butyryl Content of Cellulose Acetate Butyrate, D817-44T

Tentative Definitions of:

Terms, with Symbols, Relating to Magnetic Testing, A127-44T

Terms Relating to Lime, C51-44T

Tentative Methods of:

Field Test for Tendency of Boiler Water to Cause Embrittlement Cracking of Steel, D807-44T

Preparation of Micrographs of Metals and Alloys, E2-44T

Tentative Method of Test for:

Brittle Temperature of Plastics and Elastomers, D746-44T

Compilation of ASTM Standards

Paper and Paper Products; Methods of Testing and Specifications, December, 1944 $1.50

Aeronautical Chamber of Commerce of America (610 Shoreham Building, Washington, D. C.)

National Aircraft Standards for Bearings
Heavy Duty Inner and Outer Races, Non-Separable, Single Row Needle NAS 290
Heavy Duty, Outer Race Retainment Separable Inner Race, Single Row Needle NAS 291
Roller Type, Heavy Section Outer Race and Inner Race Non-Separable, Single Row Needle NAS 292
Roller Type, Heavy Section Outer Race and Inner Race Non-Separable, Double Row Needle NAS 293
Heavy Duty Self-Aligning, Inner and Outer Races Non-Separable, Single and Double Row Needle NAS 294

American Iron and Steel Institute (350 Fifth Avenue, New York 1, N. Y.)

Steel Products Manual, Section 12, Hot-Rolled Carbon-Steel Strip 25¢

American Society of Heating and Ventilating Engineers (51 Madison Avenue, New York 10, N. Y.)

Heating Ventilating Air Conditioning Guide, 23rd Edition $5.00

Interstate Commerce Commission, Bureau of Motor Carriers, Section of Safety (Washington, D. C.)

Motor Carrier Accidents 1941-1942 Report, March, 1945

National Electrical Manufacturers Association (155 East 44th Street, New York 17, N. Y.)

NEMA Power Switching Equipment Standards, Publication 45-94, January, 1945 (supersedes Publication 41-65) $2.50

NEMA Recommended Standards for Turbine-Generator Units 75 to 400 Kw, inclusive, Pub 45-101, April, 1945 50¢

Underwriters' Laboratories, Inc. (207 East Ohio Street, Chicago 11, Ill.)

Standards for:

Temperature-Indicating and Regulating Equipment, March, 1945
Thermoplastic-Insulated Wires, March, 1945
General List of Standards, April, 1945

U. S. Government

(Wherever a price is indicated, the publication may be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C. In other cases, copies may be obtained from the government agency concerned.)

Federal Specifications Executive Committee (U. S. Treasury Department, Washington, D. C.)

Federal Specifications are prepared for use by all government departments and establishments in their purchases. Copies are available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. at 5 cents each. Requests should be accompanied by cash, check, or money order.

As a service to Company Members, the ASA maintains a sale file of all Federal Specifications. These specifications can be purchased from the ASA Sales Department.

Federal Specifications

Albuminometers (new) GG-A-438 June 1, 1945
Aluminum-Alloy (A1-17) (Aluminum-Copper-Magnesium-Manganese); Bars, Rods, Shapes, and Wire (Amendment 1) QQ-A-351b May 15, 1945
Ammonium-Chloride (Sal Ammoniac); Technical Grade (superseding O-A-491) O-A-491a May 15, 1945
Boxes; wood, wirebound, for domestic shipment (Amendment 1) NN-B-631b June 1, 1945
Calcium-Chloride; Hydrated, Technical-Grade (Amendment 2) O-C-106a June 1, 1945
Chairs; Office, Wood (Amendment 2) AA-C-311 June 1, 1945
Cleaners, Vacuum; electric, portable (Amendment 2) W-C-421a May 15, 1945
Conduit and Fittings; asbestos-cement (for) electrical purposes W-C-571 May 1, 1945
Conduit and Fittings; fiber, bituminized (Amendment 1) W-C-531 June 1, 1945
Cotton; sterile and nonsterile (superseding JJJ-C-561a) JJJ-C-561b May 1, 1945
Coupling; hose, steam (Amendment 2) (superseding Errata-1 and E-WW-C636, 8-6-42) WW-C-636 June 1, 1945
Couplings; hose, water-suction (Amendment 1) (superseding Emer Alt E-WW-C-646, 8-6-42) WW-C-646 May 1, 1945
Cupric-Sulfate; technical-grade, crystals (new) O-C-828 June 1, 1945
Drills; Electric, portable (exclusive of high-frequency types) (Amendment 2) W-D-661 June 1, 1945
Drums; steel, type 5B (for petroleum products) (new) RR-D-729 April 15, 1945
Gauze; strip; plain and medicated (new) DDD-G-148 May 1, 1945
Glue; animal (for) woodworking (Amendment 1) C-G-451 April 15, 1945
Gauze; wire (for laboratory use) (new) RR-G-123 May 1, 1945
Insulation; laminated-asbestos (superseding HH-I-561a) HH-I-561b June 1, 1945
Lamps; photographic, flash (new) W-L-122 April 15, 1945
1945 Supplement, Lamps; photographic, flash (new) W-L-122 April 15, 1945
Mandrels; dental (new) GG-M-108 May 1, 1945
Packing Fiber, Animal or Plant; sheet (for) lubricating and fuel oil (superseding HN-P-96a and Emer Alt E-HH-P-96a, 11-20-42) HH-P-96b April 15, 1945
Paint; ready-mixed and semipaste, exterior, chrome-green (Amendment 2) TT-P-71a April 15, 1945
Packing;
asbestos, rod, braided (superseding HH-P-34) HH-P-34a May 1, 1945
asbestos, valve-stem (superseding HH-P-51 and Emer Alt E-HH-P-96a, 11-20-42) HH-P-96b April 15, 1945
Powder; scouring (for) highly-polished-glass (Amendment 2) P-P-596a May 15, 1945
Safelights; darkroom and viewing (new) GG-S-86 May 15, 1945
Soap;
chip (Amendment 2) P-S-566a May 15, 1945
laundry, chip, rosin-type (Amendment 2) P-S-581 May 1, 1945
laundry, granulated, rosin-type (Amendment 2) P-S-583 May 1, 1945
laundry, ordinary, bar (Amendment 2) P-S-591a May 1, 1945
laundry, powdered (Amendment 2) P-S-611a May 15, 1945
low-titer (for low-temperature washing) (Amendment 3) P-S-600 May 1, 1945
salt-water (Amendment 4) P-S-611a May 15, 1945
Toilet; floating, white (Amendment 2) P-S-616a May 15, 1945
Toilet; milled (Amendment 2) P-S-621a May 15, 1945
Satchels; leather, physicians' (new) KK-S-151 May 15, 1945
Stain; opaque, wood, exterior, oil (new) TT-S-706 April 15, 1945
Stain; wood, interior, non-bleeding (new) TT-S-711 April 15, 1945

Army Air Forces

List of Material and Process Specifications Bulletin, April, 1945

National Bureau of Standards (Washington 25, D. C.)

Commercial Standards

Douglas Fir Plywood, CS45-45 10¢
Prefabricated Homes, CS-125-45 5¢
Women's Slip Sizes, CS121-45 5¢

Simplified Practice Recommendations

Iron and Steel Relief Valves for Petroleum, Chemical, and General Industrial Services R205-44 5¢
Loaded Paper Shot Shells R31-45 5¢
Metallic Cartridges R62-45
Plow Bolts R23-45 5¢

Miscellaneous

Testing of Weighing Equipment NBS Handbook H37 75¢

New Standards From Other Countries

THE following new and revised standards, received recently by the American Standards Association from other countries, may be borrowed by ASA Members from the ASA Library or purchased through the Sales Department.

Great Britain

New British Standards

Asbestos Cement Spigot and Socket; Blue Pipes and Fittings for Gas Appliances, Dimensions and Workmanship of, BS567:1945 75¢
Cast Stone BS1217:1945 75¢
Centrifugally Cast (Spun) Iron Pipes for Water, Gas and Sewage BS1211:1945 75¢
Ceramic Lavatory Basins, Dimensions and Workmanship Only BS1188:1944 75¢
Clayware Field Drain Pipes BS1196:1944 75¢
Concrete Flooring Tiles and Fittings, Dimensions and Workmanship BS1197: 1944 75¢
Concrete Plain Roofing Tiles and Fittings BS473:1944 75¢
Concrete Porous Pipes for Under-Drainage BS1194:1944 75¢
Copper Cylinders for Domestic Purposes, Grades 1, 2, and 3 BS699:1944 75¢
Fireclay Sinks, Dimensions and Workmanship BS1206:1945 75¢
Gypsum and Anhydrite Building Plasters BS1191:1944 75¢
Galvanized Solid Steel Wire for Signalling Purposes BS163:Part 2:1945 75¢
Glazing and Fixing of Glass for Buildings BS Code of Practice 973-1945 75¢
Hessian Sandbags and Rot-proofed Hessian Sandbags BS1214:1945
Hollow Clay Building Blocks BS1190: 1944 75¢
Hollow Glass Blocks BS1207:1944 75¢
Interim Report on the Preservation and Packaging of Weapons, Electrical and Telecommunications Equipment, Optical and Mechanical Equipment for Tropical Theaters of War, Supplement to BS1133:1943 $1.25
Kitchen Fitments and Equipment BS 1195:1944 75¢
Light Gauge Copper Tubes for Water, Gas and Sanitation BS659:1944 75¢
Oil Stains BS1215:1945 75¢
Semi-Rotary Pumps Hand Operated, Double Acting for Water BS1208:1945 75¢
Steel Fabric for Concrete Reinforcement, Part A, Hard Drawn Steel Wire Fabric; Part B, Twisted Steel Fabric; Part C, Expanded Metal (Steel) Fabric BS1221:1945 75¢
Stock Control and Storekeeping, Part 5 BS1100:1944 75¢
Testing Procedure Applicable to Aircraft Steels S:100 40¢
Water Taps Bib Pillar Glove and Stop BS1010:1944 75¢
Wire Nails and Cut Nails for Building Purposes BS1202:1944 75¢
Wood Blocks (Interlocking) for Floors BS1187:1944 75¢
Wood Windows and Casement Doors, Part 1 BS644:1945 75¢

Wrought Iron and Mild Steel Hooks for Cranes, Chains, Slings and General Engineering Purposes Excluding Building Operations BS482:1945 75¢

Drafts of Proposed British Standards

Flameproof Enclosure of Electrical Apparatus CG (EL) 9543 Rev. of BS229:1940
Gas Installation Pipes CP(B)436 1945 75¢
Gas Metering and Consumers Control CP (B) 435 1945 75¢
Installation of Gas Service Pipes CP(B) 434 1945 75¢
Space Heating by Independent Gas Appliances CP(B)437 1945 75¢
Coal Tar Pitches Suitable for Building Purposes CG(BMB)9374 1945
Metal Windows and Doors for Domestic Buildings CH(HIB)9924 1945
Recommendations for the Handing of Doors, Windows, Locks, Etc CG(TIB) 9697 1945

Canada

Interim and Emergency Revisions to Canadian Electrical Code, Part 1, Supplements 1 and 2 C22.1-1939 30¢

Australia

Testing Woven Textile Fabrics CL.1-1945 75¢

New Zealand

Building-Bricks NZSS 366 1943 75¢
Ceiling-Roses Made of Synthetic Resin Mouldings for Use on 250-Volt Circuits NZSS 354 1943 75¢
Pale Boiled Linseed Oil NZSS 358 1943
Petroleum Dry-Cleaning Solvent NZSS 306 1944 75¢
Sequence of Trade Headings and Specification Items for Building-Work NZSS367 1944 75¢

Emergency Standards

Commercial Plywoods NZSS E 160 1945
Milking Machine Rubberware NZSS E74 1945
Precast Concrete Drainage Pipes NZSS E112 1943

Mexico

Acido Clorhídrico, Norma Provional 1944
Alambres de Cobre de Sección Circular, desnudos (Para energía eléctrica) Norma Oficial 1944
Papel Estarcidor, Norma Oficial

NBS Acts on Standards and Simplification Recommendations

Commercial Standards

Announced by the Division of Trade Practice, National Bureau of Standards

Apparel Sizes, Girls, Proposed Commercial Standard TS-3909—

A proposed Commercial Standard on Body Measurement Scales for Apparel Sizes for Girls, TS-3909, the second of a coordinated series, was circulated for special advance consideration March 19. Primary purpose is to establish a system of body measurements as a basis for sizing girls' apparel. Under this proposal, body measurements of a girl (rather than her age) determine the size. The first of the series covered infants', babies', toddlers', and children's classifications.

End Measuring Rods—

Recommended Commercial Standard (Emergency) for End Measuring Rods, TS-3936, has been circulated to the trade for written acceptance, in order that it may become more widely effective through establishment as a Commercial Standard.

Purpose of the standard is to provide minimum essential requirements for end measuring rods. The standard covers the major essential requirements for individual-type end measuring rods in sizes from one inch to 23 inches inclusive, and corresponding metric sizes; and for combination-type end measuring rods in sizes from one inch to 12 inches inclusive, and corresponding metric sizes.

Western Hemlock Plywood, CS122-45—

Western Hemlock Plywood, CS122-45, now available as a printed standard, lists grading requirements for four grades of western hemlock plywood, bonded with moisture-resistant-type adhesive, which are suitable for sheathing, paneling, sub-flooring and other structural and industrial uses not subjected to exposure. The standard also covers tests for bondage, standard sizes, size tolerances, reinspection rules, grade marking, and nomenclature and definitions.

Simplified Practice Recommendations

Asphalt and Tarred Roll Roofing and Saturated Felt Products—

A proposed Simplified Practice Recommendation for Asphalt and Tarred Roll Roofing and Saturated Felt Products has been submitted to producers, distributors, and users of these products for approval or comment. The proposed recommendation covers smooth and mineral-surfaced roll roofing, roll siding, and saturated felt only, according to the announcement. If approved, it will become effective on a voluntary basis, when wartime restrictions are removed.

Cast Brass Solder-Joint Fittings—

A proposed Simplified Practice Recomendation for Cast Brass Solder-Joint Fittings has been submitted to producers, distributors and users for acceptance and comment. The proposal, as announced, plans a voluntary simplified list of cast brass solder-joint fittings and will represent the best thought of the industry and users as to what constitutes desirable current and postwar practice. Sketches illustrate 37 types of fittings, various sizes of which are included in the proposed list.

Clay Sewer Pipe—

A proposed new Simplified Practice Recommendation for clay sewer pipe has been submitted to all interested for acceptance or comment. The announcement states that the recommendation represents an effort to retain in the postwar period some of the benefits resulting from the War Production Board's Limitation Order L-316. It lists the varieties of standard-strength and extra-strength pipe and fittings that should be considered as stock items. Information is contained in two schedules, A and B. Schedule B covers practice in certain western states.

Files and Rasps (American Pattern, and Straight- and Curved-tooth Milled Files) R6-44—

A proposed revision of Simplified Practice Recommendation R6-44, Files and Rasps (American Pattern, and Straight- and Curved-tooth Milled Files) has been accepted by a satisfactory majority of manufacturers, distributors and users, the Division of Trade Standards announces. The revision includes 12 changes. The width and thickness dimensions of some of the sizes and types, which had been reduced as a conservation measure, have been restored; several sizes of flat brass files and hand-saw blunt files have been added, also second-cut in five sizes of mill files. One size in each of six other types has been eliminated.

Pipes, Ducts, and Fittings for Warm Air Heating and Air Conditioning—

Simplified Practice Recommendation R207-45 for Pipes, Ducts, and Fittings for Warm Air Heating and Air Conditioning became effective on March 1, 1945. The recommendation contains a stock list of pipes, ducts, and fittings representing the best thought of the industry and users as to what constitutes desirable present and postwar practice.

Compare Brazilian-U.S. Building Practices

Building regulations covered by ABNT (Associação Brasileira de Normas Técnicas), designated as NB-1, NB-2, NB-4, NB-5, NB-6, and NB-7, are discussed in the second article of a series by Arthur J. Boase, manager of the Structural Bureau of the Portland Cement Association, in the April 19, 1945 issue of *Engineering News-Record*.

American and Brazilian practices are contrasted and the influence of European codes on Brazilian regulations is described. Despite differing methods, many large concrete structures have been built during the past 20 years and have given effective service, Mr. Boase reports.

The third article in the series will present a quantitative comparison of the design of buildings constructed under Brazilian and American codes from plans which the author brought back from Brazil.

ASA Standards Activities

American Standards

New Project Initiated

Installation of Oxychloride Cement Flooring

American Standards Reaffirmed

Wood Poles

Ultimate Fiber Stresses of Wood Poles 05a-1933
Northern White Cedar Poles, Specifications and Dimensions, 05.1-1941
Western Red Cedar Poles, Specifications and Dimensions, 05.2-1941
Chestnut Poles, Specifications and Dimensions, 05.3-1941
Southern Pine Poles, Specifications and Dimensions, 05.4-1941
Lodgepole Pine Poles, Specifications and Dimensions, 05.5-1941
Douglas Fir Poles, Specifications and Dimensions, L5.6-1941
Sponsor: ASA Telephone Group

Power Switchgear

Relays Associated with Power Switchgear, C37.1-1937
Sponsor: Electrical Standards Committee

American Standards Approved Since Our May Issue

Circuit Breakers

Alternating-Current Power Circuit Breakers, C37.4-1945
Method for Determining the Rms Value of a Sinusoidal Current Wave and a Normal Frequency Recovery Voltage, C37.5-1945
Schedule of Preferred Ratings for Power Circuit Breakers, C37.6-1945
Operating Duty (Duty Cycle) for Standard and Reclosing Service, C37.7-1945
Rated Control Voltages, C37.8-1945
Test Code for Power Circuit Breakers, C37.9-1945
Sponsor: Electrical Standards Committee

Gas-Burning Appliances

Listing Requirements for Gum Protective Devices, Z21.35-1945
Sponsor: American Gas Association

Photography

Dimensions for Bite of Film Clips, Z38.8.4-1945
Sponsor: Optical Society of America

Pipe and Tubing, Wrought-Iron and Wrought-Steel

Electric-Resistance-Welded Steel Boiler and Superheater Tubes for High-Pressure Service, Specifications for (ASTM A 226-44; ASA B36.18-1945)
Electric-Resistance-Welded Steel and Open-Hearth Iron Boiler Tubes, Specifications for (ASTM A 178-44; ASA B36.13-1945)
Electric-Resistance-Welded Steel Pipe, Specifications for (ASTM A 135-44; ASA B36.5-1945)
Lap-Welded and Seamless Steel and Lap-Welded Iron Boiler Tubes, Specifications for (ASTM A 83-44; ASA B36.12-1945)

American Standards Approved—(Continued)

Medium-Carbon Seamless Steel Boiler and Superheater Tubes, Specifications for (ASTM A 210-44; ASA B36.15-1945)
Seamless Alloy-Steel Boiler and Superheater Tubes, Specifications for (ASTM A 213-44; ASA B36.17-1945)
Seamless Steel Boiler Tubes for High-Pressure Service, Specifications for, (ASTM A 192-44; ASA B36.14-1945)
Spiral-Welded Steel or Iron Pipe, Specifications for (ASTM A 211-44; ASA B36.16-1945)
Welded and Seamless Steel Pipe, Specifications for (ASTM A 53-44; ASA B36.1-1945)
Sponsors: American Society for Testing Materials; American Society of Mechanical Engineers

Standards Being Considered by ASA for Approval

Building Code Requirements for Minimum Design Loads in Buildings and Other Structures, A58.1
Sponsor: National Bureau of Standards, U. S. Department of Commerce
Building Code Requirements for Reinforced Gypsum Concrete, Revision of A59.1-1941
Sponsors: Building Officials Conference of America; Gypsum Association
Pipe Threads, Revision of B2.1-1942
Sponsors: American Gas Association; American Society of Mechanical Engineers

American War Standards

American War Standards Approved Since Our May Issue

Photography

Projection Screens (Semi-Diffusing Reflecting Surface), Brightness Characteristics, Z52.46-1945
Projectors for Slides and Slidefilms, Z52.28-1945
Reel Spindles for 16-Mm Motion Picture Projectors, Z52.34-1945

War Standards Under Way

Cylindrical Fits, B4.1
Drawings and Drafting Room Practice, Z55
Linemen's Rubber Protective Equipment
  Rubber Insulating Line Hose, J6.1
  Rubber Insulator Hoods, J6.2
  Leather Protector Gloves, J6.3
  Rubber Insulating Blankets, J6.4
  Linemen's Rubber Sleeves, J6.5
Machine Tool Electrical Standards (Revision of C74-1942)
Photography and Cinematography, Z52
Motion Picture Cameras
  Distance Calibration of 16-Mm Motion Picture Camera Lenses, Z52.51
  Field of View of 16-Mm Motion Picture Camera View Finders Having Parallax Adjustment, Z52.49

War Standards Under Way—Photography, Motion Picture Cameras—(Continued)

  Mounting Dimensions for 16-Mm Camera and Recorder Film Magazines (400 Foot Gear-Driven Type), Z52.52
  Mounting Dimensions for 16-Mm Camera and Recorder Magazines (200-Foot Belt-Driven Type), Z52.66
  Mounting Dimensions for 16-Mm Camera and Recorder Magazines (400-Foot Belt-Driven Type), Z52.67
  Photographing Aperture of 16-Mm Sound Motion Picture Cameras, Z52.47
  Photographing Aperture of 16-Mm Silent Motion Picture Cameras, Z52.48
  Registration Distance and Mounting Dimensions of 16-Mm Motion Picture Camera Lenses, Z52.50
Motion Picture Projection Equipment
  Class II Service Model 16-Mm Sound Motion Picture Projection Equipment, Specification for, Z52.13
  Projection Screens (Mounted on Spring Rollers), Specification for, Z52.56
  Projection Screens (Mounted on Rope and Pulley-Operated Springless Rollers), Z52.57
  Projection Screens (Folding, for Portable-Frame Mounting), Z52.58
  Projection Screens (Auditorium-Frame Mounting), Z52.59
Motion Picture Release Prints
  Leaders, Cues, and Trailers for 16-Mm Sound Motion Picture Release Prints Processed from Original 16-Mm Material, Z52.31
  Picture and Sound Synchronization Marks for 35-Mm and 16-Mm Sound Motion Picture Release Negatives and Other Preprint Material, Z52.53
  Printer Loss in 16-Mm Sound Motion Picture Prints, Method of Determining, Z52.40
Motion Picture Test Films
  Warble Test Film Used for Testing 16-Mm Sound Motion Picture Equipment, Specification for, Z52.32
  Photographic Filter Terminology and Nomenclature, Z52.61
Still Cameras
  Exposure Markings for Between-the-Lens Shutters, Z52.62
  Exposure Markings for Focal Plane Shutters, Z52.64
  Exposure Time of Focal Plane Shutters, Method of Determining, Z52.65
  Performance Characteristics of Between-the-Lens Shutters, Method of Determining, Z52.63
Still Printing Equipment
  Contact Printer, Photographic, Specification for, Z52.18
  Enlarger, Photographic, Specification for, Z52.23
Protective Occupational (Safety) Clothing, L18
  Gloves to Provide Protection Against Chemicals
Radio, Noise, Methods of Measuring, C63
Safety Color Code for Marking Physical Hazards, Z53
Safety Code for the Industrial Use of X-Rays, Z54
Screw Threads, B1
  High-Duty Studs in Light Alloys
  Instrument Threads
  Stub Acme Threads
  Unification of Screw Threads

Grandstands, Tents, and Other Places of Outdoor Assembly, Z20—

Sponsors: Building Officials Conference of America; National Fire Protection Association

A fourth draft of the proposed American Standard is now before the sectional committee, which is voting on whether it shall be submitted to the ASA for approval as American Standard.

Installation of Oxychloride Cement Flooring—

A request by the Oxychloride Cement Association that the American Standards Association initiate a project to standardize specifications for the installation of oxychloride cement flooring has been approved by the Standards Council. With the request the association submitted a series of tentative specifications prepared by the Technical Committee of the association.

Pipe Threads, B2.1-1942—

Sponsors: American Society of Mechanical Engineers; American Gas Association.

A revision of the American Standard for Pipe Threads, B2.1-1942, prepared by Sectional Committee B2, has been submitted by the sponsors to the ASA for approval, and is now being considered by the Mechanical Standards Committee.

Relays Associated with Power Switchgear, C37.1-1937—

Sponsor: ASA Electrical Standards Committee.

On recommendation of the sectional committee and the Electrical Standards Committee, the Standards Council has approved the re-affirmation of this standard. Members of the sectional committee recommended, however, that a revision of the standard be considered immediately after the war.

Safety Code for Mechanical Refrigeration, B9—

Sponsor: American Society of Refrigerating Engineers.

A trade practice conference for the low pressure refrigerant gas industry was held under the auspices of the Federal Trade Commission May 25. The ASA staff has called the attention of the Commission to the fact that the sectional committee in charge of the safety code is broadly representative and could if the Commission so desires serve as an advisory group on any technical problems that may arise as a result of the conference.

Standardization in the Field of Photography, Z38—

Sponsor: Optical Society of America.

A vote is now being taken by the sectional committee on approval of two new proposed American Standards:

Method for Determining Spectral Sensitivity Indexes and Group Numbers for Photographic Emulsions, Z38.2.4

Diffuse Transmission Density, Z38.2.5

In addition, the committee is considering a revision of the American Standard Method for Determining Photographic Speed and Speed Number, Z38.2.1-1943.

Steel for Bridges and Buildings—Mild Steel Plates; and Low Tensile Strength Carbon-Steel Plates of Structural Quality for Welding—

Sponsor: American Society for Testing Materials.

The American Society for Testing Materials announces that it has approved for publication as tentative ASTM standards, revisions in the American Standard Specifications for Steel for Bridges and Buildings (ASTM A 7-42; ASA G24-1942); American Standard Specifications for Mild Steel Plates (ASTM A 10-39; ASA G20-1939); and American Standard Specifications for Low Tensile Strength Carbon-Steel Plates of Structural Quality for Welding (ASTM A 78-43; ASA G40.1-1943). The ASTM is proprietary sponsor for these standards. These tentative revisions, which were accepted in August, 1944, appear in the 1944 *Book of ASTM Standards*, Part I, page 1993.

Unification of Screw Threads, B1.9—

A proposed American War Standard for Rounded American National Screw Threads, prepared by Paul J. DesJardins, chairman of ASA War Subcommittee on Unification of Screw Threads, is being circulated to the committee, to the British Standards Institution, and the Canadian Standards Association.

Wood Poles, 05—

Sponsor: ASA Telephone Group.

In line with the requirements of the ASA By-Laws for re-affirmation or revision of approved American Standards at least once in every three years, the Sectional Committee on Wood Poles has considered the six American Standards on Wood Poles and has found that they are up-to-date. The standards have been re-affirmed by the Standards Council.

This pocket-size card, graphically showing American Standard signals for cranes, is issued by the American Hoist & Derrick Company, St. Paul, Minn. Safety rules are on the back.

New American War Standards for Resistance Welding

Straight and Offset Resistance-Welding Electrodes and Electrode Holders **35¢**
C52.3-1945

Covers straight and offset electrodes of ½ inch and greater diameter and electrode holders commonly used in spot welding and in some applications of projection welding and electro-brazing. Also covers hardness and electrical conductivity of commonly used resistance welding alloys.

Controls for Resistance-Welding Machines C52.4-1945 **25¢**

Covers the functions performed by timing controls for use with resistance-welding machines.

Specifications for Resistance-Welding Machines C52.5-1945 **30¢**

Covers design, construction, and methods of test of resistance-welding equipment of the spot-projection-butt-, and seam-welding types.

These constitute three more completed standards in the series that have been developed under the war procedure of the American Standards Association at the request of the War Production Board. Preliminary work on this series of war standards was done by a task committee of an industry advisory committee of the War Production Board.

Order from:

AMERICAN STANDARDS ASSOCIATION

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